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**COVER SHEET**  
**ENVIRONMENTAL ASSESSMENT**  
**FOR THE PROPOSED CONSTRUCTION AND OPERATION OF A CONSOLIDATED FUELS**  
**FACILITY AND THE DEMOLITION OF THE EXISTING FUEL FARM AT**  
**BUCKLEY AIR FORCE BASE, COLORADO**

Prepared by  
Headquarters Air Force Center for Environmental Excellence  
Brooks Air Force Base, Texas 78235-5122

- a. **Responsible Agency:** U.S. Air Force, 460th Space Wing
- b. **Proposed Action:** Construct and operate a consolidated fuels facility and demolish the existing fuel farm at Buckley Air Force Base (BAFB), Colorado.
- c. **Written comments and inquiries regarding this document should be directed to:** Ms. Janet Wade, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551; telephone (720) 847-9977.
- d. **Privacy Advisory:** Your comments on this Draft Environmental Assessment (EA) are requested. Letters or other written or oral comments provided may be published in the Final EA and made available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meeting or hearings or to fulfill requests for copies of the Final EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA; however, only the name of individuals making comments and the specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.
- e. **Designation:** Draft Environmental Assessment (EA)
- f. **Abstract:** The purpose of the proposed action is to meet the fuel storage and distribution requirements at BAFB and to reduce air pollution from the existing facilities while adding the equipment necessary for using alternative fuels at BAFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and requires on-going repairs. The tank farm is also currently located in an incompatible land use area. Additionally, fuel trucks for aircraft operations must travel across the base from the aircraft apron and back, which creates safety concerns associated with the transportation of highly flammable materials on a regular basis. In addition to the proposed action, four alternatives were analyzed, including the no action alternative, two alternative locations, and upgrading the existing facility.

This EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of constructing and operating a consolidated fuels facility and demolishing the existing fuel farm at BAFB. The following resources were eliminated from detailed analysis in this draft EA due to the absence of these resources at or adjacent to the project area or accepted engineering or design techniques, which would ensure no significant impacts: groundwater, wetlands, floodplains, soils, historic or archeological resources, the Environmental Restoration Program, and radon. The U.S. Air Force has examined the following resource areas and found that implementing the proposed action, or the alternatives, would not result in any significant impacts: surface water and stormwater drainage, air quality, biological resources (including vegetation, wildlife, and threatened and endangered species), noise, land use and transportation, public utilities, hazardous materials and substances, and social or economic resources (including environmental justice.)

- g. **Comments must be received by:** **7 October 2005**

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14. ABSTRACT <p><b>The purpose of the proposed action is to meet the fuel storage and distribution requirements at BAFB and to reduce air pollution from the existing facilities while adding the equipment necessary for using alternative fuels at BAFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and requires on-going repairs. The tank farm is also currently located in an incompatible land use area. Additionally, fuel trucks for aircraft operations must travel across the base from the aircraft apron and back, which creates safety concerns associated with the transportation of highly flammable materials on a regular basis. In addition to the proposed action, four alternatives were analyzed, including the no action alternative, two alternative locations, and upgrading the existing facility. This EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of constructing and operating a consolidated fuels facility and demolishing the existing fuel farm at BAFB. The following resources were eliminated from detailed analysis in this draft EA due to the absence of these resources at or adjacent to the project area or accepted engineering or design techniques, which would ensure no significant impacts: groundwater wetlands, floodplains, soils, historic or archeological resources, the Environmental Restoration Program, and radon. The U.S. Air Force has examined the following resource areas and found that implementing the proposed action, or the alternatives, would not result in any significant impacts surface water and stormwater drainage, air quality, biological resources (including vegetation wildlife, and threatened and endangered species), noise, land use and transportation, public utilities hazardous materials and substances, and social or economic resources (including environmental justice.)</b></p>		
15. SUBJECT TERMS		



16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>147</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

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**FINDING OF NO SIGNIFICANT IMPACT  
PROPOSED CONSTRUCTION AND OPERATION OF A CONSOLIDATED FUELS FACILITY  
AND THE DEMOLITION OF THE EXISTING FUEL FARM AT  
BUCKLEY AIR FORCE BASE, COLORADO**

**Agency**

U.S. Air Force, 460th Space Wing

**Background**

The U.S. Air Force conducted an Environmental Assessment (EA) of the potential environmental consequences of activities associated with constructing and operating a consolidated fuels facility at Buckley Air Force Base (BAFB), Colorado. This EA was prepared in accordance to 32 Code of Federal Regulations (CFR) §989, which, in turn, implements Section 102 (2) of the National Environmental Policy Act (NEPA) and the regulations established by the Council on Environmental Quality (CEQ).

**Proposed Action**

The proposed action includes construction and operation of a consolidated fuels facility near the Civil Engineering Complex and the demolition of the existing fuel farm. In addition to the proposed action, four alternatives were analyzed, including the no action alternative, upgrading the existing facility, and two action alternatives.

**Factors Considered in Determining That No Environmental Impact Statement is Required**

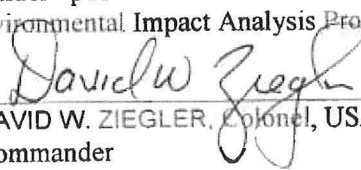
The EA, which is incorporated by reference, analyzed the environmental impacts of implementing the Proposed Action and four alternatives by taking into account all relevant environmental resource areas and conditions. The following resources were eliminated from detailed analysis in this draft EA due to the absence of these resources at or adjacent to the project area or accepted engineering or design techniques, which would ensure no significant impacts: groundwater, wetlands, floodplains, soils, historic or archeological resources, the Environmental Restoration Program, and radon. The U.S. Air Force has examined the following resource areas and found that implementing the proposed action, or the alternatives, would not result in any significant impacts: surface water and stormwater drainage, air quality, biological resources (including vegetation, wildlife, and threatened and endangered species), noise, land use and transportation, public utilities, hazardous materials and substances, and social or economic resources (including environmental justice).

**Public Notice**

NEPA, 40 CFR §1500-1508, and 32 CFR §989 require public review of the EA before approval of the finding of no significant impact (FONSI) and implementation of the Proposed Action. The public review period ended on 7 October 2005.

**Finding of No Significant Impact**

Based on the requirements of NEPA, 40 CFR §1500-1508, and 32 CFR §989, I conclude that the environmental effects of implementing the proposed action or alternative are not significant, and therefore, an environmental impact statement will not be prepared. A notice of availability for public review was published in the Denver Post and the Aurora Sentinel on 8 September 2005 indicating a 30-day review period. A hard copy of the Draft EA and Draft FONSI was placed in the Denver, Aurora, and Boulder public libraries for dissemination. The signing of this FONSI completes the USAF Environmental Impact Analysis Process

  
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DAVID W. ZIEGLER, Colonel, USAF  
Commander

**FEB 21 2006**

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Date

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**SECTION 1.0**  
**PURPOSE OF AND NEED FOR THE ACTION**

This environmental assessment (EA) was prepared in accordance with the United States (U.S.) Air Force (USAF) Environmental Impact Analysis Process (EIAP) (32 Code of Federal Regulations [CFR] Part 989), which complies with the regulations promulgated by the Council on Environmental Quality (CEQ) (40 CFR Part 1500-1508), which, in turn, implements Section 102 (2) of the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [USC] §4321 to §4370d). The principal objectives of NEPA are to ensure the careful consideration of environmental aspects of proposed actions in federal decision-making processes and to make environmental information available to decision-makers and the public, before decisions are made and actions are taken. This EA has been prepared by the USAF to satisfy the EIAP, which requires the assessment of environmental effects resulting from the proposed construction and operation of a consolidated fuels facility and the demolition of the existing fuel farm and associated facilities and the government fueling station at Buckley Air Force Base (AFB).

**1.1 INTRODUCTION AND BACKGROUND**

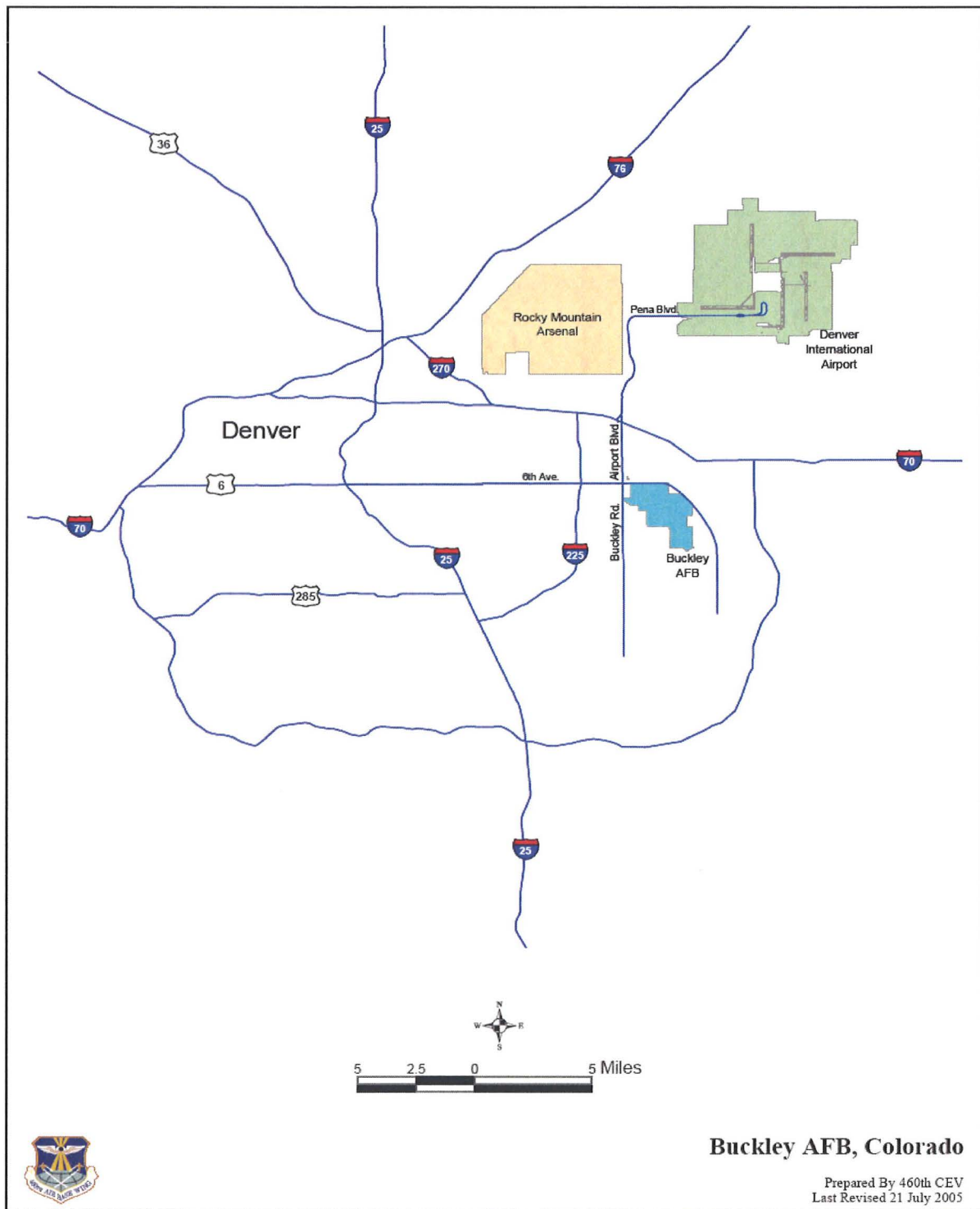
Buckley AFB lies within the Denver metropolitan area and encompasses approximately 3,283 acres adjacent to the City of Aurora, Arapahoe County, Colorado (**Figure 1-1**). In 2000 the installation switched from being an Air National Guard base to an Air Force base. The base is home to a diverse range of missions and military services and components. Units of active duty, National Guard, and Reserve personnel from the Air Force, Army, Navy and Marine Corps operate at the installation. The 460th Space Wing (460 SW) is the current host of Buckley AFB. The mission of the 460 SW is to operate Buckley AFB and to provide combat commanders with superior global surveillance, worldwide missile warning, expeditionary forces, and support to homeland defense missions” (Kirkman 2004).

Buckley AFB has approximately 11,350 active duty and reserve personnel, and civilian or contract employees; it also serves an additional 77,000 retirees, dependents, and veterans.

**1.2 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS AT BUCKLEY AIR FORCE BASE**

The transformation of the installation from a minimally developed facility into a fully operating Air Force base will take time and a great deal of construction. A General Plan was developed for Buckley AFB so that development can proceed orderly and efficiently. Approximately 50 activities/facilities will need to be developed to support the mission and the personnel working and living on the installation. The Buckley AFB General Plan lists more than 2.8 million square feet (SF) of facilities/areas that would need to be constructed between Fiscal Year 2002 (FY 02) to FY 13 (BAFB 2002b). Buckley AFB plans to construct approximately 1.6 million SF of new

SECTION 1.0  
PURPOSE OF AND NEED FOR THE ACTION



1  
2 **Figure 1-1. General Location of Buckley AFB**

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1 facilities and demolish approximately 85,000 SF from FY 04 to FY 08 (**Table 1-1**); however,  
2 time lines are subject to change and projects may be constructed at earlier or later dates.  
3 Currently, Buckley AFB has 187 buildings with approximately 2.6 million gross SF of  
4 occupiable floor space and approximately 2.0 million SF of parking (BAFB 2002b, Kirkman  
5 2004).

6  
7 One of the ideas developed in the General Plan is to construct a consolidated fuels facility in an  
8 area designated for industrial land uses. Currently, there are bulk JP-8 fuel storage facilities and a  
9 military service station in the southwest corner of the northwest corner of Buckley AFB (**Figure**  
10 **1-2**). The 2002 General Plan proposed to change the land use designation of this area from  
11 industrial to community services. Section 2.0 discusses the proposed construction and demolition  
12 project and potential alternatives.

### 13 14 **1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION**

15  
16 The purpose of the proposed action is to meet the fuel storage and distribution requirements at  
17 Buckley AFB and to reduce air pollution from the existing facilities while adding the equipment  
18 necessary for using alternative fuels at Buckley AFB. The need for the proposed action arises  
19 because the existing fuel tank farm is deteriorating and in need of on-going repairs and the  
20 current tank farm is located in an incompatible land use area. Planned land uses in the immediate  
21 area of the tank farm include the development of military family housing and community  
22 services. Additionally, fuel trucks for aircraft operations must travel across the base from the  
23 aircraft apron and back, through non-industrial areas, which creates safety concerns associated  
24 with the transportation of highly flammable materials on a regular basis through the base  
25 transportation network.

### 26 27 **1.4 SCOPE OF THE ENVIRONMENTAL ASSESSMENT**

28  
29 This EA addresses the potential impacts to surface water resources and stormwater quality, air  
30 quality, biological resources (including vegetation, wildlife, and threatened and/or endangered  
31 species), noise, social or economic resources (including environmental justice), land use and  
32 transportation, public utilities, and hazardous materials and substances. Resource areas  
33 eliminated from detailed study within this EA due to their absence at or adjacent to the project  
34 area, or because design and/or engineering techniques avoided impacts to the resource include:  
35 groundwater resources, wetlands, 100-year floodplains, soils, historic or archeological resources,  
36 the Environmental Restoration Program (ERP), and radon.

37  
38 The NEPA and CEQ regulations require that the environmental effects of proposed actions and  
39 alternatives be considered in the decision-making process. Preparation of an environmental  
40 document (this EA) must precede final decisions regarding the proposed action, and the  
41 document must be available to inform decision-makers and the public of potential environmental  
42 consequences/impacts. This EA allows for public consideration and input concerning the  
43 implementation of the proposed military construction and operation of a consolidated fuels  
44

**SECTION 1.0**  
**PURPOSE OF AND NEED FOR THE ACTION**

1

**Table 1-1. Scheduled Facility Projects at Buckley AFB<sup>1</sup>**

<p><b>FY 02</b></p> <ul style="list-style-type: none"> <li>Physical Fitness Center</li> <li>2<sup>nd</sup> Dormitory (144)</li> <li>Military Family Housing<sup>2</sup></li> <li>Telluride/6<sup>th</sup> Avenue Entry Gate</li> </ul> <p><b>FY 03</b></p> <ul style="list-style-type: none"> <li>460 SW Headquarters</li> <li>ADAL SBIRS Mission Visitors' Quarters</li> <li>Temporary Lodging Facility (NAF)</li> <li>Car Wash (AAFES)</li> <li>Control Tower (COANG)</li> <li>Fire Station Addition</li> <li>Engine Shop Addition, Building 960 (COANG)</li> <li>Repair Runway, Taxiways, Ramps (COANG)</li> <li>Williams Lake Pavilions (2)</li> <li>Entomology</li> <li>H-70 Fuel Storage Facility</li> <li>Golf Driving Range (NAF)</li> <li>Addition to Child Development Center</li> <li>Civil Engineering Warehouse</li> </ul> <p><b>FY 04</b></p> <ul style="list-style-type: none"> <li>Upgrade Buckley AFB Infrastructure, Phase III</li> <li>Civil Engineering Complex (COANG)</li> <li>Approach Lighting (COANG)</li> <li>Repair Parking Lots (COANG)</li> <li>Repair Parking Lot East of Building 471</li> <li>ADAL Airfield Access Roads (COANG)</li> <li>Fire Training Facility</li> <li>Impound Lot</li> <li>East Gate<sup>2</sup></li> <li>Visitor Center<sup>2</sup></li> <li>Airfield Fencing</li> </ul> <p><b>FY 05</b></p> <ul style="list-style-type: none"> <li>Vail Street Improvements</li> <li>Repair Taxiways A &amp; K</li> <li>Chapel Center Child Development Center</li> <li>Playgrounds</li> <li>Athletic Fields</li> </ul>	<p><b>FY 05 (cont'd)</b></p> <ul style="list-style-type: none"> <li>Outdoor Recreation Equipment Rental Facility (NAF)</li> <li>ADAL Medical Clinic</li> <li>Hazardous Waste Storage Facility</li> <li>Hazardous Materials Issue Facility</li> <li>Army Aviation Support Facility (COARNG)</li> <li>Permanent Alert Shelters &amp; Crew Quarters (COANG)</li> </ul> <p><b>FY 06</b></p> <ul style="list-style-type: none"> <li>Medical Pharmacy</li> <li>Leadership Development Center</li> <li>Consolidated Fuels, including Military Gas Station</li> <li>Logistics Complex</li> <li>Consolidated Services Facility</li> <li>Security Forces Operations Facility</li> <li>Youth Center (NAF)</li> <li>Ball Field Concession (NAF)</li> <li>Outdoor Arms Range</li> </ul> <p><b>FY 07</b></p> <ul style="list-style-type: none"> <li>Education Center</li> <li>ADAL Communications Center, Building 730</li> <li>Vehicle Maintenance Facility</li> </ul> <p><b>FY 08</b></p> <ul style="list-style-type: none"> <li>Widen 6<sup>th</sup> Avenue</li> <li>Consolidated Base Warehouse</li> <li>Entry Control Facility</li> <li>Aerospace Data Facility Addition</li> </ul> <p><b>FY 09</b></p> <ul style="list-style-type: none"> <li>Upgrade Infrastructure—Phase IV</li> <li>Fitness Center Addition</li> <li>Fire Station Addition</li> <li>New Parking Apron</li> <li>Taxiway and Arm/Disarm (COANG)</li> <li>Weapons Loading Facility (COANG)</li> <li>Weapons Release Complex (COANG)</li> </ul>
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1 Dates are subject to change  
2 These projects delayed, moved to later FY.  
AAFES Army/Air Force Exchange Service  
ADAL Addition/Alteration

COANG Colorado Air National Guard  
COARNG Colorado Army National Guard  
NAF Nonappropriated funds  
SW Space Wing

2

Source: 1st Quarter Buckley AFB Facilities Board, 31 January 2004



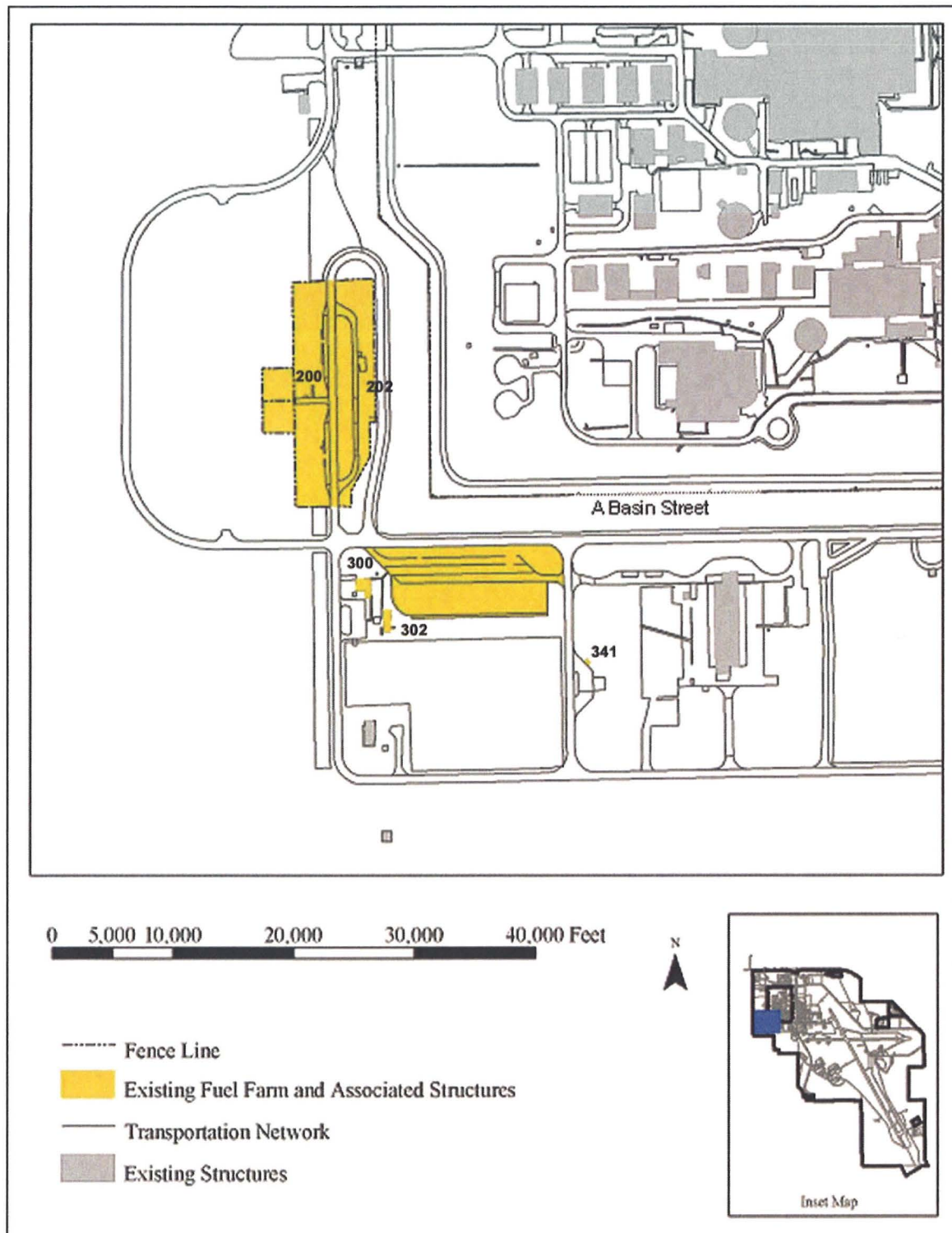


Figure 1-2. Existing Fuel Facilities

1 facility and the demolition of the existing fuel tank farm at Buckley AFB. It provides the  
2 decision-makers and the public with information required to understand the possible future  
3 environmental consequences/impacts of implementing the proposed action or alternatives. The  
4 decision to be made, after a review of the analysis presented in this EA, would be whether to  
5 issue a finding of no significant impact or to proceed with the implementation of an  
6 environmental impact statement to further quantify and detail the potentially significant impacts  
7 resulting from implementation of the proposed action or alternatives. While this EA provides  
8 information with which to make better decisions about proposed actions, it does not imply  
9 project approval or authorization, which is obtained through the 460 SW Facilities Board.

## 11 1.5 ORGANIZATION OF THE ENVIRONMENTAL ASSESSMENT

12  
13 This document follows the format established in 32 CFR §989 implementing the CEQ  
14 regulations (40 CFR §1502). The document consists of the following sections:

15  
16 **Section 1.0 Purpose of and Need for the Action**—presents a brief description of the  
17 background of the installation; the past, present, and reasonably foreseeable future  
18 actions on Buckley AFB; the purpose and need for the proposed action; the scope of the  
19 environmental review; and a brief description of the EA organization.

20  
21 **Section 2.0 Alternatives Including the Proposed Action**—provides a detailed  
22 description of the selection criteria and descriptions of the proposed action and  
23 alternatives. Section 2.0 also includes a summary of the resource or issue area eliminated  
24 from detailed study within this EA. Section 2.0 contains the summary comparison of the  
25 proposed action and alternatives and the alternatives comparison matrix.

26  
27 **Section 3.0 Affected Environment**—presents the existing baseline environment or  
28 present condition of the area(s) potentially affected by the alternatives identified to  
29 implement the proposed action. Each environmental resource potentially impacted by the  
30 implementation of the proposed action and alternatives is discussed for each impacted  
31 resource area.

32  
33 **Section 4.0 Environmental Consequences**—provides the scientific and/or analytical  
34 basis for comparing the alternatives and describes the probable consequences of each  
35 alternative on relevant environmental attributes.

36  
37 **Section 5.0 List of Preparers**—provides a list of the document preparers and  
38 contributors.

39  
40 **Section 6.0 Distribution List and Agencies and Individuals Contacted**—provides a  
41 list of persons/agencies contacted in the preparation of this EA. This section also contains  
42 a brief summary of comments received and responses to those comments.  
43



1       **Section 7.0   References**—provides a list of references used in the preparation of this  
2       EA.

3  
4       **Section 8.0   Acronyms and Abbreviations**—provides a list of applicable acronyms  
5       and abbreviations used throughout the text.

6  
7       **Appendices**—provide background and supporting information to this EA, as necessary.  
8       Appendices included in this EA are Appendix A: USAF Form 813; Appendix B:  
9       Representative Photographs; Appendix C: Notice of Availability and Affidavit of  
10      Publication; Appendix D: Interagency Coordination Letters; and Appendix E: Comments  
11      and Response to Comments.

**SECTION 1.0**  
**PURPOSE OF AND NEED FOR THE ACTION**

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## SECTION 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This section of the EA describes the proposed action and the alternatives developed by Buckley AFB. This section also describes the process used to objectively identify the reasonable alternatives carried forward for detailed environmental analysis, as well as the reasoning for elimination of some alternatives. A comparative summary of the proposed action, alternatives, and how they do or do not meet the selection criteria identified in Section 2.1 is also included.

### 2.1 IDENTIFICATION OF SELECTION CRITERIA

In an effort to satisfy the purpose and need for the proposed action, several selection criteria were developed to compare and contrast alternative ways of fulfilling the objectives of the proposed action in accordance with 32 CFR §989.8(c). Those specific criteria include:

1. **Increase the efficiency of aircraft operations by locating fuel within the general footprint of the apron.** In order to more efficiently execute aircraft operations, Buckley AFB would like to locate fuel storage and distribution activities within the general footprint of the aircraft apron.
2. **Reduce health and safety risks posed by transporting hazardous materials, such as jet fuel around the base.** In order to reduce the environmental and safety risks posed from transporting flammable materials, such as jet fuel, Buckley AFB would like to limit the amount of time fuel trucks use installation roadways near commercial and residential areas.
3. **Provide a centralized location that would be convenient for the fueling of non-aircraft government vehicles.** Buckley AFB would like to locate the consolidated fuels facility, including the fueling station, in an area more convenient to its end users, which include the Civil Engineering Complex (maintenance trucks, snow plows, etc.), the future motor pool and others. Better access to the main thoroughfares on the installation would both reduce the amount of time fuel delivery vehicles spend on installation road networks and make the fueling of government-owned vehicles more efficient.
4. **Avoid incompatible land uses as revised in the 2002 Buckley AFB General Plan.** For safety reasons, Buckley AFB would like to avoid locating the consolidated fuels facility in residential or community service land use areas.

### 2.2 DESCRIPTION OF THE PROPOSED ACTION

Under the proposed action Buckley AFB would construct, equip, and operate a consolidated fuels facility adjacent to the aircraft apron, northeast of the Civil Engineering Complex (**Figure 2-1**). Additionally, Buckley AFB would demolish the existing fuel tank farm, including Buildings 200, 202, 300, and 302, all associated equipment and piping, and all above-ground

SECTION 2.0  
ALTERNATIVES INCLUDING THE PROPOSED ACTION

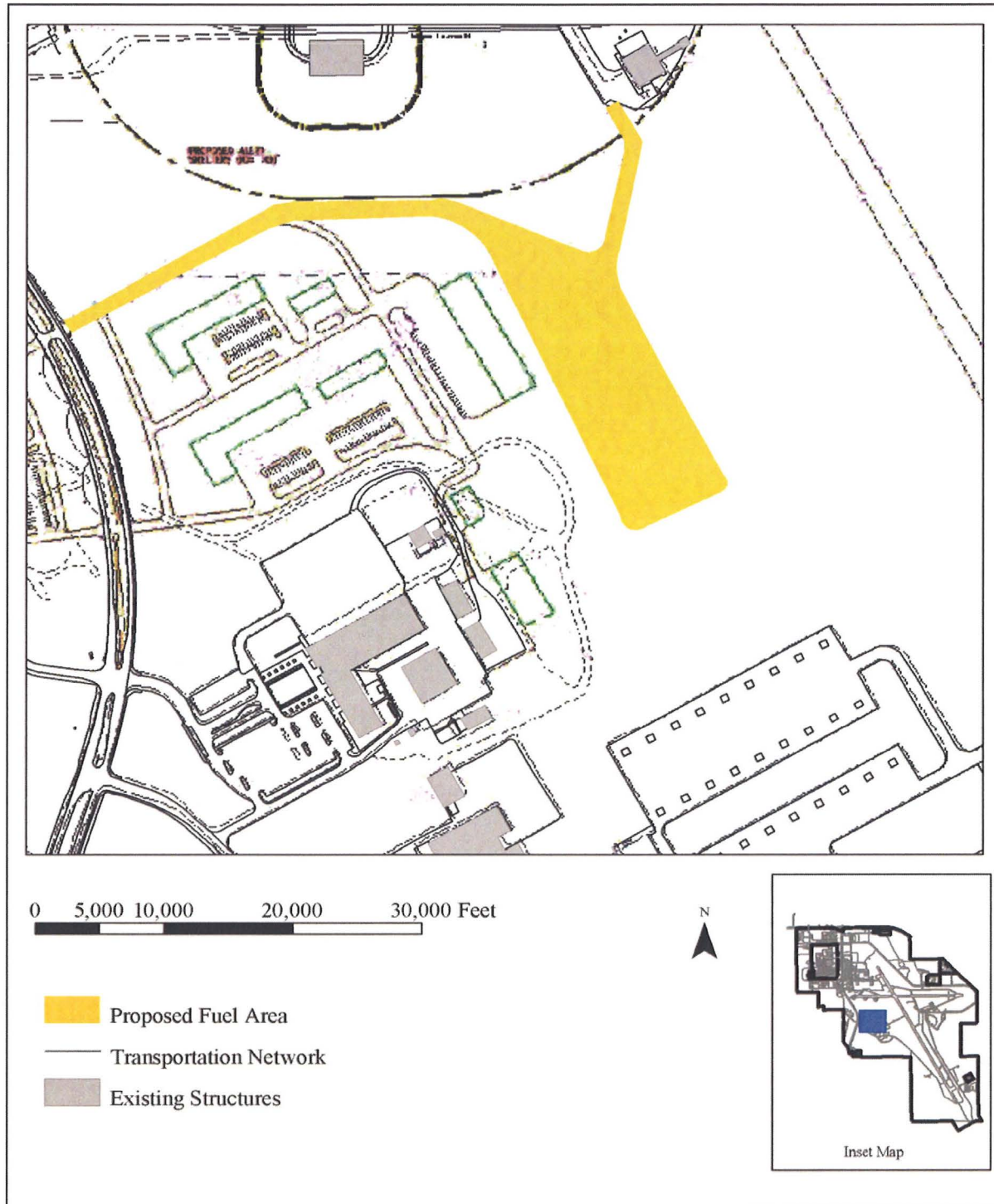


Figure 2-1. Proposed Consolidated Fuels Facility on Buckley AFB

Environmental Assessment  
For the Proposed Construction and Operation of a  
Consolidated Fuels Facility and the Demolition of the  
Existing Fuel Farm at Buckley Air Force Base  
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storage tanks (ASTs) containing jet propellant-8 (JP-8) fuel, liquid oxygen, liquid nitrogen, and glycol. Buckley AFB would also remove the fuels station located adjacent to Building 341, which contains two diesel ASTs and two gasoline ASTs.

The new consolidated fuels facility would cover approximately 8.4 acres and include

- Installation of JP-8 aircraft fuel tanks (210,000 gallons each), liquid oxygen storage tanks (two 2,000-gallon tanks and one 400-gallon), liquid nitrogen storage tanks (one 400-gallon tank and two 100-gallon tanks), and a glycol storage tank (10,000 gallons);
- Construction of an approximately 3,200-SF petroleum operation building;
- Construction of a government fueling station (2,000 SF), with diesel and mogas (10,000 gallons each), and the equipment to store and dispense alternative fuels (10,000-gallon tanks each for ethanol [E-85] and biodiesel);
- Installation of an approximately 3,200-SF petroleum, oil, and lubricant (POL) pumping station;
- Construction of additional ancillary facilities such as roads, surface parking (30 spaces), containment areas, and concrete pads. Roads, with sufficient area for fuel truck maneuverability, would be paved to avoid picking up dirt and other foreign objects and debris that could be carried onto the airfield during delivery.

The construction and demolition activities described below would be similar for the Preferred Alternative and either of the other two alternative locations.

### **2.2.1 Construction Activities**

Due to the high occurrence of montmorillonite/bentonite in soils within the eastern portion of Colorado, a geotechnical analysis of the potential for expansive soils at the proposed site would be conducted, prior to construction activities. This analysis would assess the potential capacity for clays adjacent to and at the site to shrink and swell during differential moisture regimes. If the analysis indicated the presence of highly expansive soils, proper engineering techniques would be utilized to stabilize the soils prior to construction of any of the concrete pad sites.

Construction and installation activities would begin in FY 06 with the installation of the alternative fuels tanks and fueling station and last approximately 7 months; however, this schedule is subject to change. Additional construction activities on the remaining portions of the consolidated fuels area would begin in FY 06 and last approximately 16 months; however, the timeline is subject to change and the project may be constructed at an earlier or later date or in different years. On-site construction equipment would include the use of heavy trucks or the equivalent. Additional light-duty equipment (e.g., generators, compressors) would also be used throughout the duration of activities. All equipment would likely come from local sources and

1 would be brought to the site via local roadways. Equipment maintenance would be conducted off  
2 site by the contractor and in accordance with all applicable laws and regulations. Construction  
3 activities would typically occur 8 hours per day, 6 days per week; however, the hours/days are  
4 subject to change and the project may be constructed sooner or later as priorities change.

5  
6 The majority of construction materials would likely come from local sources and would be  
7 stored at the site for the duration of activities. All construction materials purchased for this  
8 project would be compliant with affirmative procurement requirements. Within approved  
9 guidelines, recyclable materials would be used. No grading plan is currently available; however,  
10 preliminary plans indicate that cut-and-fill materials would be balanced so that no new soils  
11 would be brought on site or existing soils removed. All construction debris would be recycled or  
12 disposed of at an approved landfill in accordance with all applicable federal, state, and local laws  
13 and regulations.

14  
15 To reduce impacts to local and regional air quality, best management practices (BMPs), such as  
16 proper maintenance of construction vehicles to reduce combustive emissions, limiting the size of  
17 the disturbance area, and watering exposed soils at the beginning construction activities and  
18 throughout the day as necessary, would be implemented to minimize or prevent fugitive dust  
19 emissions. BMPs for water pollution prevention would also be implemented to reduce potential  
20 sediment runoff into nearby surface water.

#### 21 22 **2.2.2 Demolition Activities**

23  
24 Demolition of the current fuel tank farm (Building 200 and surrounding areas) and the  
25 government vehicle fueling station (Building 341 and surrounding facilities) would occur once  
26 the new facilities are operational. Prior to demolition, all fuel tanks would be cleaned and closed  
27 following the guidance of applicable state and federal regulations. The existing fuels facility is  
28 estimated to cover about 4 acres of paved surface.

29  
30 Buckley AFB has confirmed that some of the underground storage tanks (USTs) previously used  
31 on the base have leaked petroleum products into the surrounding soils. The base is currently  
32 managing those contaminated areas in accordance with AF guidance and state and local  
33 regulations. If suspected contamination is identified during project demolition activities, the soil  
34 will be tested and, if contaminated, managed appropriately.

35  
36 Demolition debris would be recycled or disposed of at an approved off-base landfill in  
37 accordance with all applicable federal, state, and local laws and regulations. Though not  
38 anticipated, any potentially hazardous materials or wastes (including POL, asbestos-containing  
39 materials [ACMs], lead-based paint, and polychlorinated biphenyls [PCBs], if present) would be  
40 handled and disposed of in accordance with all applicable federal, state, and local regulations.  
41 Due to the building age, only PCBs would be anticipated from overhead light fixtures. Building  
42 200 is directly outside the footprint of former World War II buildings; however, portions of the  
43 tank farm including Buildings 202, and Buildings 300 and 302, and the government fueling  
44 station lie within this area and there is the potential for subsurface ACMs (i.e., piping or building



remnants). However, since these structures were constructed after the demolition of World War II buildings, the majority of the subsurface ACMs should have been located during previous construction activities. Buckley AFB is aware of the slight potential for ACMs at this site and would inform all contract personnel working at the site of this potential. Demolition activities would be halted upon finding any subsurface debris.

### 2.2.3 Permits and Notifications

Permits and notifications that would be needed before construction include:

- A site-specific Stormwater Pollution Prevention Plan (SWPPP).
- A Notice of Intent (NOI) to obtain coverage under the U.S. Environmental Protection Agency's (USEPA's) General Permit for Storm Water Discharges from Construction Activities.
- A Closure Notification to the Colorado Division of Oil and Public Safety for demolition of the existing fuel tanks.
- An application to the Colorado Division of Oil and Public Safety to install new ASTs.
- Modification of Buckley AFB's Title V Operating Permit for air emissions.

### 2.2.4 Operations

Operations at the new consolidated fuels facility would be similar to current activities. The new facility would be entirely enclosed within a standard chain-link fence per safety regulations. Motor vehicle parking would be within the petroleum operation building, within an enclosed garage, or adjacent to the fuels laboratory. If unexpected spills were to occur, spill containment measures would be implemented, which would include stopping the spill, cleaning any contaminated surfaces, and removing any contaminated materials.

## 2.3 ALTERNATIVES TO THE PROPOSED ACTION

Four alternatives to the proposed action have been identified, including the no action alternative, two alternative locations for the new consolidated fuels facility, and updating the existing facility (Figure 2-2).

### 2.3.1 Alternative 1—No Action Alternative

The no action alternative does not satisfy the purpose and need for the action; however, pursuant to NEPA, the no action alternative has been carried forward as the baseline to which the potential

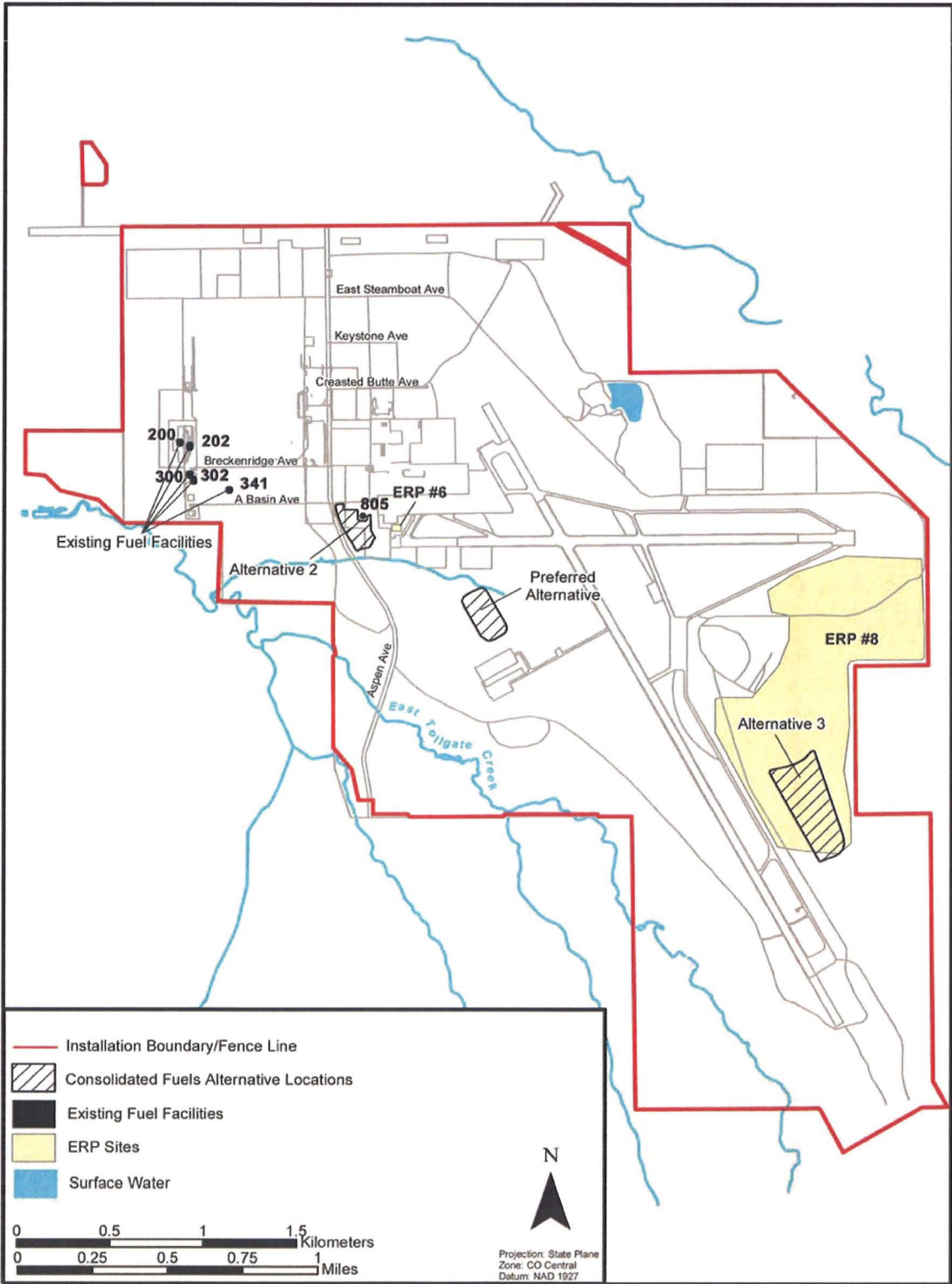


Figure 2-2. Buckley AFB Consolidated Fuels Facility Alternative Locations

Environmental Assessment  
For the Proposed Construction and Operation of a  
Consolidated Fuels Facility and the Demolition of the  
Existing Fuel Farm at Buckley Air Force Base  
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1 impacts of the proposed action and alternatives can be measured. Under the no action alternative,  
2 the current fuel tank farm and associated facilities would continue operation. This activity would  
3 not be efficient for aircraft operations, it would still require transporting fuels by truck from the  
4 facility to the flight areas on base roads. While this location might be convenient to those  
5 vehicles based in the Mission Operation and Maintenance area of Buckley AFB, it would be out  
6 of the way for other Buckley AFB users and it would require additional traffic through non-  
7 industrial land uses on tertiary roads. Over time, it would impose a greater risk to the  
8 environment than the newer facility.

9  
10 Although this alternative does not include upgrading the existing facilities, it would include the  
11 investigation and cleanup of any contamination at the facility, because the cleanup would be  
12 required by federal and state law, regardless of which alternative is selected.

### 13 14 **2.3.2 Alternative 2—Locate the Consolidated Fuels Facility Near Building 805**

15  
16 This alternative proposes to construct the new consolidated fuels facility near Building 805 in the  
17 southeast corner of the intersection of Aspen Avenue and A Basin Street (**Figure 2-2**). Building  
18 805 currently houses the COANG Weapons Release Facility. The fuels facility would encompass  
19 approximately the same square footage as the proposed action and include the same facilities. As  
20 with the proposed action, this alternative would require the demolition and removal of the  
21 existing fuels facilities.

22  
23 This alternative would satisfy some, but not all, of the alternative selection criteria for the  
24 project. The location of this alternative is west-southwest of the hangar/apron area, so having the  
25 fuels here would be convenient for flight training operations. This location is just off Aspen  
26 Avenue; therefore, it both reduces the hazards of transporting fuels around the base and provides  
27 a convenient location for non-aircraft government-owned vehicles; however, by being on a main  
28 street, it would pose a greater safety risk to the public. Although this location is sited within  
29 Aircraft Operations and Maintenance land use, which is compatible, it is adjacent to the Buckley  
30 AFB medical facility and administrative land uses, which are not. Building 805, which is  
31 adjacent to the site, stores weapons and munitions for distribution when needed. Special  
32 precautions would need to be made to protect this building from a potential fire or explosion at  
33 the fuels facility.

### 34 35 **2.3.3 Alternative 3—Locate the Consolidated Fuels Facility on the East Side of Airfield**

36  
37 Under this alternative Buckley AFB would construct the consolidated fuels facility on the east  
38 side of the airfield. This alternative would provide access adjacent to the aircraft apron for  
39 efficient aircraft operations, and it would reduce health and safety risks by limiting the amount of  
40 time fuel trucks use the installation roadways; however, this location would not be centrally  
41 located for the convenience of non-aircraft vehicles, including the Logistics Complex, which will  
42 be moving to an area near the Civil Engineering Complex on the west side of the airfield.  
43 Additionally, this alternative would require the installation of liquid fuel lines and other  
44 associated infrastructure (e.g., water and sewer connections; electric, telephone and computer

lines; and the main fire suppression line), which would greatly increase the cost of construction activities.

As with the proposed action, this alternative would require the demolition and removal of the existing fuels facilities.

#### **2.3.4 Alternative 4—Updating the Current Facility**

Under this alternative Buckley AFB would update the current fuel tank farm and associated facilities. This alternative would not increase aircraft refueling efficiency by providing access at or adjacent to the aircraft apron, it would not reduce the health and safety risks of transporting fuels throughout Buckley AFB on installation roadways through incompatible land uses, and would not provide a location that is more centrally located. Additionally, updating the current facility would not isolate flammable operations away from other facilities or in an industrial land use area. Because it did not meet any of the alternative selection criteria, this alternative has been eliminated from further study within this EA.

### **2.4 RESOURCES AND/OR ISSUES ELIMINATED FROM DETAILED ANALYSIS IN THIS ENVIRONMENTAL ASSESSMENT**

#### **2.4.1 Groundwater Resources**

The region of influence (ROI) for this resource would be the aquifers underlying Buckley AFB. The installation is underlain by aquifers of the Denver Basin aquifer system; specifically, the main underlying aquifers are the Denver aquifer and the Arapahoe aquifer (U.S. Geological Survey [USGS] 1995). The water-bearing layers of these two aquifers are approximately 150 to 175 feet thick (USGS 1995). Buckley AFB has six non-tributary wells; Buckley AFB receives potable water from the City of Aurora. Depth to groundwater is greater than 20 feet below ground surface at the proposed location and the alternative locations; therefore, there are no potential impacts to this resource due to implementation of the proposed action or alternatives.

Although not expected due to the age of the tanks, soil and groundwater contamination from tank leakage or inadequate secondary containment for ASTs could be discovered during demolition activities. Buckley AFB has established protocols for managing contamination discovered on the base and any contamination discovered at the project demolition sites would be handled under these protocols. Although this action could result in the discovery of existing contamination, it would not actually create impacts to groundwater; therefore, this resource has been eliminated from detailed analysis in this EA.

The new consolidated fuels facility would be completely underlain by a bermed, impervious surface to contain any leaks or spills during its operation. This secondary containment would hold a minimum of the volume of the largest container at the facility and sufficient freeboard to hold rainwater, typically 110 percent of the tank size. The facility would also adhere to other spill control measures required by federal and state regulations. Although these measures are

designed to protect surface waters, they would also prevent the POLs used at the facility from contaminating groundwater.

#### **2.4.2 Wetlands**

The ROI for the wetlands analysis includes only those wetlands or special aquatic sites located on the installation. A base-wide jurisdictional wetlands determination by the U.S. Army Corps of Engineers (USACE) has not been made for Buckley AFB; however, there are potentially jurisdictional wetlands associated with East Toll Gate Creek and some of its unnamed drainages. None of the potentially jurisdictional wetlands are located within or adjacent to the proposed or alternative sites. The new facility would have secondary containment and runoff controls to avoid releasing contaminants to the environment. Because no wetlands would be disturbed during construction of the facility at the proposed or alternative locations and there would be engineering designs to prevent releases to potential wetland areas, this resource has been eliminated from detailed analysis in this EA.

#### **2.4.3 Floodplains**

The ROI for the floodplain analysis is the proposed construction area at the proposed or alternative locations. The potential to flood downstream areas is discussed under water resources. No floodplain maps have been published for any surface water bodies on Buckley AFB (Federal Emergency Management Agency [FEMA] 2003). A constraint analysis for the Buckley AFB Master Plan (1997) identified a floodplain/no build zone along East Toll Gate Creek. Neither the site of the proposed action nor the alternative locations fall within this floodplain zone, so this resource area has been eliminated from detailed analysis in the EA.

#### **2.4.4 Soils**

The ROI for the soils analysis is the construction footprint and any area that could be affected by soil erosion. The soil type listed as occurring at the proposed site and both of the alternative locations is Fondis silt loam, 1 to 3 percent slopes (U.S. Department of Agriculture [USDA] 1971). Fondis silt loam (1 to 3 percent slopes) soils occur on uplands (USDA 1971). The surface layer is approximately 7 inches thick and is abruptly delineated over the subsoil. The upper part of the subsoil is dense clay approximately 20 inches thick, and the lower portion contains layers of yellowish-brown clay loam (USDA 1971). Depth to lime in this soil is approximately 14 to 20 inches (USDA 1971). The Fondis silt loams contain high-swelling clays and salts below a depth of 8 inches. These soil types are considered to have severe limitations for the foundations of small buildings and leaching fields; however, since the proposed and alternative sites are covered by to rock outcrops overlain by shallow surface soils, the amount of shrink-swell potential should be minimal. Prior to any construction activities, geotechnical analysis of the soils would be undertaken to determine the presence of highly expansive soils. If these soils are identified, then proper engineering techniques would be used to stabilize the soils prior to construction activities.

As discussed under the topic of groundwater in Section 2.4.1, soil contamination may be discovered from past leakage or inadequate secondary containment during demolition activities. Potentially contaminated soil would be tested and, if contaminated, handled under existing Buckley AFB protocols so it would not be a hazard to present or future activities at the demolition sites. Because the discovery of existing contamination would not actually create impacts to soil this resource has been eliminated from detailed analysis in this EA.

#### **2.4.5 Historic or Archeological Resources**

The ROI for potential effects on archeological resources would be limited to the proposed and alternative sites and immediately adjacent areas; however, there are no known archeological resources within or adjacent to these areas. The ROI for potential effects on historical resources would be anywhere on the base. A complete description of installation cultural resources and cultural resources management is provided in the Draft Final Integrated Cultural Resources Management Plan (Buckley Air National Guard Base [BANGB] 2000). Additionally, a historic building survey has been conducted on Buckley AFB to identify and describe historic properties on the base. Six buildings were considered to be eligible on individual merit to be listed on the National Register of Historic Places. None of these buildings are close enough to the proposed or alternative sites to be affected by the proposed action; therefore, this resource has been eliminated from further study in this EA.

#### **2.4.6 Environmental Restoration Program**

The ROI for this issue area would be the installation since this is a basewide program. Two program categories under the Air Force Environmental Restoration Program (ERP) are in progress at Buckley AFB: the Installation Restoration Program (IRP) and the Military Munitions Response Program (MMRP).

The scope of the IRP is investigation and cleanup of Air Force sites whose past activities created contamination primarily from hazardous substances, hazardous wastes, low-level radioactive materials or wastes, or POLs. The Buckley AFB IRP currently consists of 10 sites, two of which have been closed, and one Area of Concern at the Buckley Annex. Also ongoing is an expansion of the Preliminary Assessment and Site Inspection conducted by the COANG in the 1980s. This nationwide search for historical Army, Navy, and National Guard records is designed to determine whether there are contaminated sites not previously discovered at Buckley AFB.

The MMRP is another program category of the Air Force ERP. The scope of the MMRP is investigation and cleanup of other-than-operational ranges contaminated with military munitions, e.g., unexploded ordnance or chemical residues of munitions. Buckley currently has two MMRP sites, an abandoned outdoor range and a former skeet range. The former skeet range is in the downrange footprint to several alternative actions. The Air Force MMRP is centrally managed by Air Staff, which recently initiated a Comprehensive Site Evaluation, Phase I, at each base to identify MMRP sites that may require responses to protect human health and the environment.

1 The IRP is currently addressing contaminated soil and groundwater sites. Two environmental  
2 database radius map searches covering the entire installation were performed for the H-70 Fuel  
3 Storage Facility/Medical Pharmacy EA dated May 2003. The preferred alternative site is not  
4 located within a known IRP site or adjacent to any known IRP sites. The location of Alternative  
5 2 is adjacent to IRP Site 6, Aircraft Parking Apron and Drainage Ditch; however, the  
6 investigation of the site revealed no need for cleanup and the site was administratively closed  
7 (Buckley AFB 2002b). Alternative 3 would sit on top of IRP Site 8, Buried Aircraft. That site  
8 has also been administratively closed because the reported buried aircraft could not be found. As  
9 such, the IRP has been eliminated from detailed analysis in this EA.

#### 11 **2.4.7 Radon**

13 The ROI for this issue would be the existing radon levels within Arapahoe County and the  
14 potential levels at the proposed and alternative sites. Arapahoe County is in USEPA Zone 1 for  
15 radon, which lists the average indoor radon level as greater than 4.0 pico-Curies per liter  
16 (Environmental Data Resources, Inc. [EDR] 2002). Since radon levels within the proposed or  
17 alternative sites could create a potential impact if the facility was occupied 8 hours a day or  
18 more, design features of the facility would be incorporated to eliminate any impacts from radon;  
19 thus, this issue has been eliminated from further study in this EA.

### 21 **2.5 COMPARISON OF THE ALTERNATIVES**

23 **Table 2-1** provides a summary comparison of the alternatives as they relate to the purpose and  
24 need criteria presented in Section 2.1. This table indicates that only the proposed action would  
25 meet all of the established criteria for the proposed action; however, Alternatives 2 and 3 do  
26 meet some of the criteria and will, therefore, be carried through the analysis.

28 **Table 2-2** provides a summary of the environmental consequences to all resource areas, even  
29 those not discussed in detail, associated with implementing the proposed action and the three  
30 alternatives carried forward for detailed analysis. As demonstrated in **Table 2-2**, none of the  
31 alternatives carried forward for detailed analysis should result in significant impacts to the  
32 environment based on set thresholds.

SECTION 2.0  
ALTERNATIVES INCLUDING THE PROPOSED ACTION

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**Table 2-1. Summary Comparison of Proposed Action and Alternatives**

<b>Purpose and Need Criteria</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Increase the efficiency of aircraft training operations by locating fuel within the footprint of the apron.	YES	NO	YES	NO
Reduce health and safety risks posed by transporting hazardous materials, such as jet fuel around the base.”	YES	NO	YES	YES
Provide a location that would be centrally located and convenient for non-aircraft vehicle.	YES	NO	YES	NO
Avoid incompatible land uses as revised in the 2002 Buckley AFB General Plan.	YES	NO	NO	YES



1                      **Table 2-2. Summary of the Environmental Consequences to All Resources for Each Alternative**

<b>Environmental Attributes (Threshold Criteria)</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Groundwater Resources <i>(Are shallow groundwater resources present?)</i> <i>(Does proposed excavation depth exceed depth to groundwater?)</i>	NO NO	NO NO	NO NO	NO NO
Surface Water Resources and Stormwater Drainage <i>(How many surface water features would be affected?)</i> <i>(Would there be a change in physical or biological water quality parameters?)</i> <i>(Would there be a substantial increase in stormwater flow?)</i> <i>(Would there be a substantial alteration of localized drainage patterns?)</i>	0 NO NO NO	0 NO NO NO	1 NO NO NO	0 NO NO NO
Wetlands <i>(Are there wetlands present?)</i>	NO	NO	NO	NO
100-Year Floodplain <i>(Is the site within the 100-year floodplain?)</i>	NO	NO	NO	NO
Soils <i>(Are highly expansive soils present?)</i> <i>(Will the cut-and-fill activities be unbalanced?)</i>	MAYBE NO	NO NO	MAYBE NO	MAYBE NO
Historic or Archeological Resources <i>(How many eligible or potentially eligible sites would be affected?)</i>	0	0	0	0
Air Quality <i>(Would the action increase pollution above de minimis standards?)</i>	NO	NO	NO	NO
Biological Resources <i>(How many acres of vegetation would be affected?)</i> <i>(How many federally listed threatened and/or endangered species would potentially be affected?)</i> <i>(How many state species or habitats of concern would potentially be affected?)</i>	8.4 0 2	0 0 0	8.4 0 2	8.4 0 2
Noise <i>(Would the action create an unacceptable permanent increase in noise above ambient conditions?)</i>	NO	NO	NO	NO
Land Use and Transportation <i>(Is the proposed action inconsistent with adjacent land uses [current and planned]?)</i>	NO	NO	NO	NO
Public Utilities <i>(Would there be an unacceptable change in the level of service?)</i> <i>(Would the level of wastewater generated increase?)</i>	NO NO	NO NO	NO NO	NO NO

SECTION 2.0  
ALTERNATIVES INCLUDING THE PROPOSED ACTION

**Table 2-2. Summary of the Environmental Consequences to All Resources for Each Alternative (Cont'd)**

<b>Environmental Attributes (Threshold Criteria)</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Environmental Restoration Program <i>(Are there open ERP sites present?)</i>	NO	NO	NO	NO
Radon <i>(Are any buildings not designed to reduce/prevent radon exposure?)</i>	NO	NO	NO	NO
Hazardous Materials and Substances <i>(Will existing solid/hazardous waste and debris be left onsite?)</i>	NO	YES	NO	NO
<i>(Will closure of current fuel farm be inconsistent with the requirements of 7 CCR 1101-14?)</i>	NO	YES	NO	NO
<i>(Would there be an increased usage of hazardous materials?)</i>	NO	NO	NO	NO
<i>(Would there be an increased generation of hazardous wastes?)</i>	NO	NO	NO	NO
Social or Economic Resources (Including Environmental Justice) <i>(Would there be an unacceptable change in personal income or employment?)</i>	NO	NO	NO	NO
<i>(How many minority and/or low-income populations would be affected?)</i>	0	0	0	0



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This section of the EA provides a description of the existing environment of the proposed project and alternatives. Each resource area is defined within a limited ROI. The ROI varies from resource area to resource area depending upon the scale of activities and the aspects that define each individual region. Environmental resources or attributes excluded from detailed analysis include groundwater resources, wetlands, 100-year floodplain, soils, historic or archeological resources, the ERP, and radon (see Section 2.4).

Low relative humidity, abundant sunshine, infrequent rain and snow, moderate wind movement, and a large daily and seasonal range in temperature characterize the climate at Buckley AFB. The average annual temperature is 64.1 degrees Fahrenheit (°F). The average year-round high is 88°F in July and low is 15°F in January. Monthly precipitation fluctuates throughout the year with the wettest months being May through June. The 30-year average annual rainfall is 15.8 inches. Because Buckley AFB is located at the western edge of the Colorado plains and near the foothills of the Rocky Mountains, average wind movement is sometimes subject to periodic, severe turbulence from the effects of high westerly air currents over the mountain barrier. These winds are sometimes referred to as “Chinook winds” when they warm, and “bora winds” when they are associated with a strong cold frontal passage downslope off the mountains (Weather Channel 2003).

**3.1 SURFACE WATER RESOURCES AND STORMWATER DRAINAGE**

Primary activities to control surface water use and quality are normally undertaken at the sub-watershed to watershed level, making water quality primarily a local concern. As such, the ROI for this resource area is limited to the sub-watersheds containing the proposed and alternative sites.

**3.1.1 Surface Water Resources**

The South Platte River, located approximately 15 miles northwest of Buckley AFB, is the primary surface water drainage in the region. Several smaller intermittent tributaries within or adjacent to Buckley AFB feed this drainage system. These tributaries include Sand Creek to the north, East Toll Gate Creek to the southwest, and Murphy Creek to the east. These waterways flow intermittently in the vicinity of, and on, Buckley AFB. In general, drainage flows in a northwest direction. All drainage from the northern section of Buckley AFB discharges into Murphy Creek and Sand Creek to the north and east of the base; drainage from the southern and western sections of the base discharges into East Toll Gate Creek (Buckley AFB 2002c).

There are no surface water features within the project or alternative areas. East Toll Creek is 1,500 feet southeast of the existing fuel tank farm adjacent to Building 200 and is the nearest surface water feature and potentially jurisdictional waterway. An unnamed tributary to East Toll

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Gate Creek is 900 feet north of the proposed consolidated fuels site and is the nearest surface water feature and potentially jurisdictional waterway. This same drainage is approximately 100 feet south of Alternative #2. Alternative #3 is about 200 feet from an unnamed tributary of Murphy Creek. These waterways are fully supporting of agricultural and recreational activities and are not currently threatened or impaired (**Table 3-1**).

**Table 3-1. Water Quality Status and Designation of East Toll Gate Creek and Tributaries**

State Designated Use	Attainment Status	Description	Threatened	Percent Impaired	Date of Determination
Agriculture	Fully Supporting	These surface waters are suitable or intended to become suitable for irrigation of crops usually grown in Colorado and are not hazardous as drinking water for livestock.	No	0	02 March 1999
Aquatic Life Warm Water Class 2	Fully Supporting	These are waters that are capable of sustaining a wide variety of warm-water biota, including sensitive species, due to physical habitat, water flows or levels, or uncorrectable water-quality conditions that result in substantial impairment of the abundance and diversity of species.	No	0	02 March 1999
Recreation Secondary Contact	Fully Supporting	These surface waters are suitable or intended to become suitable for recreational uses on or about the water that are not included in the primary contact subcategory, including but not limited to fishing and other streamside or lakeside recreation.	No	0	02 March 1999

Source: USEPA 2003

### 3.1.2 Storm Water Drainage

Runoff from the approximately 4 acres of proposed demolition and approximately 8.4 acres of the preferred alternative construction sites drains into Buckley AFB's engineered stormwater drainage system. All associated stormwater flows are ultimately discharged into East Toll Gate Creek at the outfalls associated with each location. A breakdown of the estimated existing water runoff from the existing facility and proposed site is tabulated in **Table 3-2**.

**Table 3-2. Existing Water Transport Conditions**

Surfaces	Area (Acres)	Water Transport (Acre-Feet/Year)					
		Precipitation	Stormwater Flow	Evapo transpiration	Runoff	Shallow Infiltration	Deep Infiltration
Impervious	4.0	5.2	5.2	0.0	0.0	0.0	0.0
Pervious	8.4	11.1	1.1	4.4	0.0	2.8	2.8
Total	12.4	16.3	6.3	4.4	0.0	2.8	2.8

Source: WCI 2003

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1 In **Table 3-2**, the existing fuel facility is estimated to cover approximately 4 acres and is  
2 assumed to be completely impervious for these runoff calculations. The runoff from the  
3 secondary containment facilities is collected and observed to see if it has a sheen before being  
4 released to the storm drain. For purposes of this analysis, all of the water from the secondary  
5 containment areas was assumed to be uncontaminated and discharged to the storm sewer system.  
6 In reality, areas of the secondary containment are cracked and rainwater likely flows through to  
7 the ground beneath the pavement; however, the amount of seepage would be difficult to quantify.  
8 The proposed fuels area is located on an estimated 8.4 acres of undeveloped land. Given the soils  
9 and vegetation in the area, it was assumed that only 10 percent of the precipitation would run off  
10 as stormwater flow. The same assumptions were made for the alternative locations.

11  
12 Buckley AFB protects its watershed through compliance with a number of federal, state, local,  
13 and USAF environmental regulations that require the installation to have detailed spill control  
14 and response procedures and to implement stormwater pollution prevention BMPs. Buckley AFB  
15 has developed and maintains in-place specific stormwater protection measures including a  
16 SWPPP, a spill response and countermeasures plan, and a hazardous materials management plan.

### 17 18 **3.1.3 Water Quality**

19  
20 The current primary nonpoint source discharge of concern is surface water runoff of materials  
21 associated with landscaping management activities adjacent to the proposed or alternative sites.  
22 Contaminants of concern include displaced soils, fertilizers, and pesticides. The existing fuel  
23 farm locations are predominantly paved with minimal land area incorporated into Buckley  
24 AFB's landscape management activities. Neither the proposed site nor the alternative locations  
25 are incorporated in Buckley AFB landscaping activities; therefore, there are no current  
26 contaminants of concern being discharged at the locations.

27  
28 Rainwater within the existing fuel farm is collected within secondary containment and does not  
29 discharge directly into the engineered stormwater drainage system. If a sheen appears on the  
30 water in the containment area, the water is collected in drums, tested and treated or disposed of  
31 as required by existing regulations. There is a slight potential for surface water contamination  
32 due to accidental spills and the lack of adequate secondary containment to hold a major spill or  
33 leak at parts of the existing fuel farm, specifically the unloading area. The drip pan in place is not  
34 large enough to contain the compartment of the largest tank truck used; therefore, although the  
35 likelihood of occurrence is low, in the case of a catastrophic failure or failure of the primary  
36 containment at the existing fuel farm unloading area, contamination could enter the storm sewer  
37 system and discharge in a public waterway.

## 38 39 **3.2 AIR QUALITY**

40  
41 Given the regional nature of air quality, the ROI for this resource area is the entire air quality  
42 control region (AQCR) that contains Buckley AFB. Buckley AFB is located in Arapahoe  
43 County, Colorado, within the Metropolitan Denver AQCR 36. The Denver metropolitan area was  
44 formerly designated by the USEPA as being in serious nonattainment for carbon monoxide (CO),

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nonattainment for the 1-hour ozone (O<sub>3</sub>) standard, and moderate nonattainment for particulate matter less than 10 microns in diameter (PM<sub>10</sub>). AQCR 36 has been redesignated as being in attainment/maintenance status for all standards except the 8-hour O<sub>3</sub> (Air Pollution Control Division [APCD] 2002). The Denver metropolitan area exceeded both the 1-hour and the 8-hour O<sub>3</sub> standards during the summer of 2003; however, the region has entered into an O<sub>3</sub> Early Action Compact with the USEPA and with adherence to milestones outlined in their Clean Air Action Plan, the district has been able to defer regulatory oversight as a nonattainment area for the 8-hour O<sub>3</sub> standard until 2007, while attempting to achieve attainment (Colorado Air Quality Control Commission [CAQCC] 2003).

Buckley AFB has been identified as a potentially major source of criteria pollutants because it has the potential to emit more than 100 tons of any single criteria pollutant; however, the actual emissions have been below that level for any single criteria pollutant. Buckley AFB is a synthetic minor source for PM<sub>10</sub> emissions under the non-attainment area New Source Review (NSR) provisions. The base is also a minor source under the Prevention of Significant Deterioration (PSD) provisions and a synthetic minor source for the oxides of nitrogen (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>). The APCD currently identifies Buckley AFB as a major source subject to Title V Operating Permit No. 950PAR118. This permit was originally issued on 28 August 1997, was most recently reissued 01 July 2002, and will expire 30 June 2007 (Colorado Department of Public Health and the Environment [CDPHE] 2002). Buckley AFB's Title V Operating Permit has established emission limits for CO, NO<sub>x</sub>, SO<sub>2</sub>, volatile organic compounds (VOCs), and PM<sub>10</sub>. If Buckley AFB adds new sources or modifies existing sources resulting in a significant increase in emissions, then Colorado Regulation No. 3, Part A, Section I.B.58, PSD permitting regulations would apply. In July 2002, CDPHE inspected stationary source emissions and found Buckley AFB to be in compliance with its Title V permit. The 2003 and 2004 total stationary source emissions for Buckley AFB and AQCR 36 are tabulated in **Table 3-3**. As shown in **Table 3-3**, the stationary source emissions for Buckley AFB did not change significantly from 2003 to 2004.

**Table 3-3. Total Stationary Source Emissions for Buckley AFB and AQCR 36**

Criteria Pollutants	2003 Buckley AFB Total Stationary Source Emissions (Tons/Year)	2004 Buckley AFB Total Stationary Source Emissions (Tons/Year)	AQCR 36 Total Emissions (Tons/Day)
NO <sub>x</sub>	64.1	63.1	313
SO <sub>x</sub>	1.1	1.7	180
VOCs	24.2	28.2	507
CO	22.8	22.4	1,203
PM <sub>10</sub>	5.3	5.5	70

NO<sub>x</sub> = oxides of nitrogen;

CO = carbon monoxide;

SO<sub>x</sub> = oxides of sulfur;

PM<sub>10</sub> = particulate matter less than 10 microns in diameter

VOCs = volatile organic compounds;

Sources: BAFB 2003; BAFB 2004; CAQCC 2000, 2001a, 2001b

Toxic air pollutants are listed by the Clean Air Act Amendments of 1990 as being hazardous to human health or the environment, but are not covered by any other part of the act. The National Emissions Standards for Hazardous Air Pollutants (NESHAPS) regulate hazardous air pollutants such as arsenic, asbestos, benzene, beryllium, mercury, and vinyl chloride. Although Buckley AFB does emit hazardous air pollutants (HAPs), it is not a major source and is not subject to additional permitting requirements or maximum achievable technology (MACT) standards.

Baseline emissions due to fuel storage and transfer and deicing operations were estimated during the 2003 and 2004 air emissions inventories at Buckley AFB (Tables 3-4 and 3-5). Evaporative emissions from both standing and working losses from all tanks at Buckley AFB were estimated using the USEPA program TANKS 4.0. This program calculates VOC emissions based on the characteristics of the storage tank, the material stored in the tank, and local climate conditions. When information was not available on the characteristics of the tanks, such as dimensions, shell and paint condition, and paint color, values were estimated (BAFB 2003).

**Table 3-4. Total Basewide Emission of Criteria Pollutants Due to the Storage, Transfer, and Use of POL and Propylene Glycol**

Activity	2003 VOCs (Tons/Year)	2003 Total HAPs (Tons/Year)	2004 VOCs (Tons/Year)	2004 Total HAPs (Tons/Year)
Fuel tank storage	1.1	0.1	1.6	0.1
Fuel Transfer Losses	0.3	0.0	0.2	0.0
Aircraft Deicing	0.0	0.0	0.0	0.0
Total	1.4	0.1	1.8	0.1

VOCs = volatile organic compounds

HAPs = hazardous air pollutants

Sources: BAFB 2003; BAFB 2004

**Table 3-5. Basewide Hazardous Air Pollutants Emissions Due to the Storage, Transfer and Use of POL**

Pollutant	2003 Emissions (Pounds/Year)			2004 Emissions (Pounds/Year)		
	Tank Storage	Fuel Transfer Losses	Total	Tank Storage	Fuel Transfer Losses	Total
Benzene	19.95	3.40	23.35	22.99	1.73	24.72
Cumene	0.97	0.76	1.73	0.99	0.89	1.78
Ethylbenzene	1.65	0.71	2.36	1.75	0.73	3.48
Hexane	12.76	1.71	14.47	17.04	0.04	17.08
Methyl tert-butyl ether	96.72	15.25	111.97	145.96	0.00	145.96
Naphthalene	0.0014	0.000	0.0014	0.0014	0.00	0.0014
Toluene	19.27	4.77	24.04	24.84	3.11	27.95
2,2,4-Trimethylpentane	14.72	2.34	17.06	22.22	0.03	23.25
Xylenes	7.54	4.61	12.15	8.51	5.05	13.56
<b>Total by Activity</b>	<b>173.6</b>	<b>33.6</b>	<b>207.2</b>	<b>244.31</b>	<b>11.58</b>	<b>111.82</b>

HAP = hazardous air pollutants

Sources: BAFB 2003; BAFB 2004



The 2003 AEI used USEPA AP-42 to quantify current on-road vehicle emissions for all fleet vehicles on Buckley AFB (USEPA 1985, 1998; BAFB 2003; **Table 3-6**). These emissions are a function of vehicle type and age, miles traveled, and fuel type. Vehicle emissions were not included in the 2004 AEI (BAFB 2004).

**Table 3-6. Buckley AFB Total On-Road Emissions by Vehicle Type**

Vehicle Type	Actual Emissions (Pounds/Year)				
	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM
Gasoline	76,751	7,523	5,142	83	76,751
Diesel	12,507	3,080	5,321	364	12,507

NO<sub>x</sub> = oxides of nitrogen; CO = carbon monoxide;  
 SO<sub>x</sub> = oxides of sulfur; PM<sub>10</sub> = particulate matter less than 10 microns in diameter  
 VOCs = volatile organic compounds;

Source: BAFB 2003

### 3.3 BIOLOGICAL RESOURCES

Biological resources present unique problems when trying to identify ROIs. Wildlife species are often migratory or transient and occupy varying locations throughout the year. While stable resources, such as vegetation communities, can normally be defined within a distinct area based on moisture regimes, soil types, and past activities, wildlife resources could be defined based on territorial ranges, which could be much broader. In this EA, the ROI is the entire installation due to the relatively large amount of acreage in comparison to other adjacent properties and its clearly defined boundaries separating areas from adjacent properties. Wildlife resources are also specifically identified for the proposed site and adjacent areas.

#### 3.3.1 Vegetation

The historical vegetation at Buckley AFB probably included western wheatgrass (*Pascopyrum smithii* [= *Agropyron smithii*]) with pockets of buffalo grass (*Buchloe dactyloides*), blue grama (*Bouteloua gracilis*), and other grama species (*Bouteloua* ssp.). This vegetation type is still evident in areas that have not been historically seeded with crested wheatgrass (*Agropyron christatum*) or where the vegetation has reverted to a more native stand. The seeded crested wheatgrass prairies vegetation type is the largest mapped vegetation type on Buckley AFB and is the type mapped for the preferred site and alternative sites. In general, the mixed grass-blue grama/western wheatgrass prairies are the most diverse plant habitats and occur primarily on upland areas. The crested wheatgrass prairies are not native; however, since their introduction, they have become widely established. Crested wheatgrass prairies are more uniform than other grassland types and have few other species associated with them (Buckley AFB 2002c).

Areas that are either overgrazed by prairie dogs or that have been historically overgrazed have been invaded by fringed sagewort (*Artemesia frigida*), cheatgrass (*Bromus tectorum*), field bindweed (*Convolvulus arvensis*), Canada thistle (*Cirsium arvense*), and Russian thistle (*Salsola*

1 *kali*). Some areas have been invaded by the noxious species Dalmation toadflax (*Linaria*  
2 *genistifolia* ssp. *Dalmatica*) and leafy spurge (*Euphorbia esula*).  
3

4 Brief surveys of the proposed and alternative locations did not identify any noxious species in  
5 the proposed action area and the area for Alternative 2 (southwest of building 805). At the  
6 location selected for Alternative 3, on the east side of the airfield), several noxious species were  
7 identified (cheatgrass, Canada thistle, musk thistle [*Carduus nutans*], and field bindweed).  
8

### 9 **3.3.2 Wildlife**

10  
11 Native fauna habitat areas include the mixed grass blue grama prairie, mixed grass western  
12 wheatgrass prairie, crested wheatgrass prairie, bottomland meadows, and cottonwood/willows  
13 vegetation communities. These large areas of open grass prairie, the riparian corridor associated  
14 with East Tollgate Creek, and the open water at Williams Lake provide a diversity of habitats  
15 that support many animal species. While the area around Williams Lake currently provides  
16 additional habitat and diversity to Buckley AFB, the lake will likely be developed as part of a  
17 recreational area, and the use of this lake by wildlife may lessen as part of this use. Wildlife  
18 typical of the Colorado high plains is present at Buckley AFB. The Buckley AFB Integrated  
19 Natural Resources Management Plan (INRMP) (draft October 2004) provides lists of all of the  
20 wildlife that can be found on Buckley AFB, and is incorporated by reference.  
21

22 The most prominent and abundant small mammal on Buckley AFB is the black-tailed prairie dog  
23 (*Cynomys ludoricianus*). Prairie dogs typically inhabit grassland habitat because grasses are their  
24 preferred food. The prairie dog also eats forbs, flowers, seeds, shoots, roots, and insects. In  
25 February 2000, the U.S. Fish and Wildlife Service (USFWS) designated the black-tailed prairie a  
26 candidate species, while preparing to list it as threatened or endangered. In August 2004, the  
27 USFWS removed the black-tailed prairie dog from the candidate species list; however, it remains  
28 a state species of concern. A 2004 survey for prairie dogs and burrowing owls did not find prairie  
29 dogs or burrowing owls residing in the site of the preferred alternative; however, the site consists  
30 of typical prairie dog habitat and a burrowing owl nest was observed adjacent to this site. Prairie  
31 dog burrows were observed within the Alternative 2 site location, but not owl nests. Most of the  
32 site for Alternative 3 actually lies within one of the base's prairie dog relocation areas and  
33 burrowing owl nests have been observed there during surveys.  
34

### 35 **3.3.3 Threatened and Endangered Species**

36  
37 Endangered and threatened species are afforded federal protection through the listing of the  
38 species under the authority of the Endangered Species Act (ESA). Under the ESA, an  
39 endangered species is defined as any species that is in danger of extinction throughout all or a  
40 significant portion of its range. A threatened species is defined as any species that is likely to  
41 become an endangered species within the foreseeable future throughout all or a significant  
42 portion of its range. Although candidate species receive no statutory protection under the ESA,  
43 the USFWS believes it is important to advise government agencies, industry, and the public that  
44 these species are at risk and may warrant protection under the act. In addition, AFI 32-7064



states that on Air Force installations, when practical, candidate species will receive the same protection as threatened and endangered species.

A list of threatened or endangered species potentially occurring in Arapaho County is presented in **Table 3-7**. This table also identifies which of these species may find suitable habitat at Buckley AFB. Also included in this table are protected and sensitive species that are not listed under the ESA. Federal and state-listed species, including candidate and species of concern, that have been observed at Buckley AFB include bald eagle (*Haliaeetus leucocephalus*), western burrowing owl (*Athene cunicularia*), and black-tailed prairie dog. Bald eagles would be considered transient, occasional visitors to Buckley AFB, while Buckley AFB contains resident populations of both burrowing owls and black-tailed prairie dogs (BAFB 2002c; Fayette et al. 2000). Riparian corridors along East Tollgate Creek and other wetland areas on Buckley AFB are potential habitat for Preble's meadow jumping mouse (*Zapus hudsonius preblei*) and the Ute ladies' tresses (*Spiranthes diluvialis*); however, based on surveys conducted at Buckley AFB in 2001, the USFWS has concluded that a population of Preble's is not likely within Buckley AFB and no sensitive plant species were encountered (USFWS 2001). No critical habitat for any species has been designated at Buckley AFB.

### 3.4 NOISE

Noise conditions at Buckley AFB can be clearly defined within the noise contours based on the movement of sound waves. The ROI for this resource area is the noise contour containing the proposed site and immediately adjacent areas. Existing noise conditions on Buckley AFB are predominantly influenced by the operational activities of aircraft and by the test run-ups of aircraft engines. Based on the Air Installation Compatible Use Zone (AICUZ) noise contours, the expected day-night sound level (DNL) for the proposed project and alternative locations is approximately 65 to 70 A-weighted decibels (dBA) with an unnoticeable change on heavy construction days (USAF 1999a). There are no residential areas, schools, churches, or hospitals adjacent to the proposed project site or the Alternative 3 site on the east side of the airfield. The proposed medical clinic would be across Aspen Street from the Alternative 2 location.

### 3.5 LAND USE AND TRANSPORTATION

The ROI for land use includes the current and planned land uses as described in the Buckley AFB General Plan (2002b) for the proposed site, as well as the adjacent areas. The ROI for transportation is the installation transportation networks.

#### 3.5.1 Land Use

The ROI for this resource area is Buckley AFB only, because the facility would not have an affect on land uses outside of the base. In 2002, Buckley AFB prepared a General Plan with

**Table 3-7. Federal and State Listed Threatened and Endangered Species  
Potentially Occurring in Arapahoe County, Colorado**

Common Name (Scientific Name)	Habitat Preferences (Reason For Decline)	Federal Status	State Status	Potential Suitable Habitat Present at BAFB?
<b>Birds</b>				
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	Sea coasts, rivers, and large lakes; nests in tall trees or cliffs near water (habitat destruction, illegal shooting, pesticides)	T	T	Yes/ Transient
Interior least tern ( <i>Sterna antillarum</i> )	Sandy/pebbly beaches, inland river sandbars for nesting and shallow water for foraging (riverine alterations, habitat loss, nest disturbance)	E	E	No**
Mountain plover ( <i>Charadrius montanus</i> )	Prairie grasslands, arid plains and fields; nesting plovers choose shortgrass prairies grazed by prairie dogs, bison and cattle, and overgrazed tallgrass and fallow fields (habitat loss, overgrazing, predation)	NL	SC	Yes
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	Lower elevation forests mostly in deeply incised, rocky canyons; complex forest structures that contain uneven-aged, multi-level and old-aged, thick forests (logging, catastrophic wildfire)	T	T	No**
Piping plover ( <i>Charadrius melodus</i> )	Sandy lakeshore beaches, sandbars within riverbeds, and sandy wetland pastures; all of which must be sparsely vegetated (habitat alteration and destruction; recreational activities near nesting sites)	T	T	No**
Western burrowing owl ( <i>Athene cunicularia</i> )	Primarily found in grasslands and mountain parks, usually in or near prairie dog towns; also uses well-drained, steppes, deserts, prairies and agricultural lands (urbanization, decimation of prairie dog populations)	NL	T	Yes*
<b>Mammals</b>				
Black-footed ferret ( <i>Mustela nigripes</i> )	Closely associated with prairie dog habitat; utilizes prairie dog burrows for nesting (habitat loss, poisoning, canine distemper, plague)	E	E	Yes**
Black-tailed prairie dog ( <i>Cynomys ludovicianus</i> )	Short-grass prairie, they avoid heavy brush and tall grass areas (habitat loss, sport hunting, extermination by ranchers/farmers)	NL	SC	Yes*
Preble's meadow jumping mouse ( <i>Zapus hudsonius preblei</i> )	In and near densely vegetated, shrub dominated riparian areas (habitat loss)	T	T	Yes**
<b>Plants</b>				
Colorado butterfly plant ( <i>Gaura neomexicana coloradensis</i> )	Sub-irrigated, alluvial soils of drainage bottoms surrounded by mixed grass prairie; Elevation 5800-6200 ft. (vegetative succession, haying, grazing, herbicide spraying, urban expansion)	T	R/SI	No**

**Table 3-7. Federal and State Listed Threatened and Endangered Species  
Potentially Occurring in Arapahoe County, Colorado (Cont'd)**

Common Name (Scientific Name)	Habitat Preferences (Reason For Decline)	Federal Status	State Status	Potential Suitable Habitat Present at BAFB?
<b>Plants</b>				
Ute ladies-tresses ( <i>Spiranthes diluvialis</i> )	Open wetland and riparian areas with permanent sub-irrigation; early successional riparian habitats such as point bars, sand bars, and low lying gravelly, sandy, or cobbly edges (alteration of hydrology, invasive plants, habitat loss, low reproductive rate, loss of pollinators)	T	R/S2	Yes**

\* = Known to occur at Buckley AFB      \*\* = Based on surveys, not likely to occur at Buckley AFB  
E = Federally or state-listed endangered species      T = Federally or state-listed threatened species  
R = State-listed as rare      S1 = Critically endangered in state  
S2 = Endangered or threatened in state      SC = State-listed special concern species (not a statutory category)  
NL = Not listed (species may be federally protected, but is not listed by the USFWS as potentially occurring in Arapahoe County)

Source: Colorado Division of Wildlife (CDOW) 2002a, 2002b, 2003; USFWS 2002, 2004

proposed land uses to support the new mission of the base (BAFB 2002b). The location of the existing fuels facility changed from an industrial land use to community services and outdoor recreation. The land just west of the facility changed from open space to planned family housing. The following future land uses were designated in the 2002 General Plan:

- Preferred Alternative—industrial
- Alternative 2—aircraft operations and maintenance
- Alternative 3—part open space, part industrial.

### 3.5.2 Transportation

The transportation system is similar to that previously described in the H-70 Fuel Storage Facility/Medical Pharmacy EA, dated May 2003, incorporated by reference. Access to Buckley AFB is available via gates at the intersections of Aspen Avenue and Sixth Avenue (North Gate), Aspen Avenue and Mississippi Avenue (South Gate), and Sixth Avenue and Telluride Avenue (Telluride Gate). Traffic through the Telluride gate is primarily Base Exchange/Commissary traffic. Aspen Street is a four-lane, divided street running north to south from the North Gate to the South Gate. The majority of vehicles entering and departing the installation must use Aspen Street. Breckenridge and Steamboat avenues distribute traffic from Aspen Street to the major industrial and flightline areas (BANGB 2004).

1     **3.6       PUBLIC UTILITIES**

2  
3     The ROI for this issue area includes the installation utility infrastructure and the adjoining public  
4     utility systems.

5  
6     Xcel Energy provides the main source of electrical energy at Buckley AFB. It also provides  
7     Buckley AFB with natural gas through a 4-inch main located beneath 6<sup>th</sup> Avenue.

8  
9     Buckley AFB obtains its potable water from the City of Aurora. Nine reservoirs and lakes  
10    provide Aurora with 44.6 billion gallons of storage capacity. Before distribution to the public  
11    water supply, water is transported from these reservoirs and treated to meet federal, state, and  
12    local drinking water standards (City of Aurora 2002).

13  
14    Buckley AFB wastewater is discharged into the Toll Gate Creek trunk sewer, which is a part of  
15    the City of Aurora wastewater collection system (USAF 1998). There are two wastewater  
16    outflows on Buckley AFB, one servicing the northern portion of the installation and one  
17    servicing the southern portion of the installation. The wastewater is treated at the Metro  
18    Wastewater Reclamation District wastewater treatment plant, which discharges treated effluent  
19    to the South Platte River (USAF 1998). Monitored wastewater discharge points revealed that  
20    wastewater discharge levels for Buckley AFB range from 3.56 million gallons for the months  
21    during winter, spring, and fall to 9.8 million gallons for the summer months, such as July. The  
22    Metro Wastewater Reclamation District prohibits the discharge of storm water into the sanitary  
23    sewer system.

24  
25    In the first quarter of FY 04, Buckley AFB disposed of 329 tons of solid waste and 25 tons of  
26    construction and demolition debris. Buckley AFB diverted 193 tons of solid waste from landfill  
27    disposal via recycling. Buckley AFB also disposed of 1,585 pounds of hazardous wastes, 2,833  
28    pounds of cleanup-generated wastes, and 1,311 pounds of universal wastes at regulated landfills.

29  
30    **3.7       HAZARDOUS MATERIALS AND SUBSTANCES**

31  
32    The ROI for hazardous materials includes all of Buckley AFB. There are approximately 90 ASTs  
33    at Buckley AFB. Of these, 71 tanks contain or contained petroleum products (JP-8, motor  
34    gasoline [MOGAS], fuel oil, and used oil), and 11 contain or contained other substances such as  
35    glycol, aqueous film-forming foam, liquid oxygen, naphthalene, and liquid nitrogen. In addition,  
36    during the first quarter of FY 04, Buckley AFB used approximately 30 pounds of regulated  
37    pesticides and 8.5 tons of regulated Class I O<sub>3</sub>-depleting substances.

38  
39    In areas with known World War II-era development, which includes the existing tank farm,  
40    associated structures, and the government fueling station, asbestos could be present as (1)  
41    insulation on abandoned buried steamlines, (2) abandoned buried Transite water lines, and (3)  
42    debris in surface and/or near surface soils remnant from building demolition. Neither the  
43    preferred nor the two alternative locations appear to be in areas where remnant asbestos would  
44    be expected.

1 As discussed in Section 3.1, the secondary containment in the fuel farm has developed cracks  
2 over the years and may have leaked contaminated rainwater to the soil and/or groundwater  
3 beneath it. In addition, previously used underground storage tanks may have leaked fuels and  
4 other hazardous materials to the surrounding soil and groundwater.

5  
6 Buckley AFB maintains a Draft Integrated Environmental Response Plan, which includes the  
7 Spill Prevention, Control and Countermeasures Plan and other response guidelines. This draft  
8 plan establishes responsibilities and provides prevention guidelines, as well as contingency plans  
9 for use in the event of a release or following discovery of a past release.

### 11 **3.8 SOCIAL OR ECONOMIC RESOURCES (INCLUDING ENVIRONMENTAL** 12 **JUSTICE)**

13  
14 Socioeconomic analyses generally include detailed investigations of the prevailing population,  
15 income, employment, and housing conditions of a community or area of interest. The  
16 socioeconomic conditions of a ROI could be affected by changes in the rate of population growth  
17 changes in demographic characteristics of a ROI, or changes in employment within the ROI  
18 caused by implementation of the proposed action. In addition to these characteristics, populations  
19 of special concern, as addressed by EO 12898 (Federal Actions to Address Environmental  
20 Justice in Minority Populations and Low-Income Populations, February 1994), are identified and  
21 analyzed for environmental justice.

22  
23 EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-  
24 Income Populations, February 1994) requires federal agencies to “make achieving environmental  
25 justice part of its mission by identifying and addressing, as appropriate, disproportionately high  
26 human health or environmental effects of its programs, policies, and activities on minority  
27 population and low income populations.” A memorandum from the President concerning EO  
28 12898 stated that federal agencies should collect and analyze information concerning a project’s  
29 effects on minorities or low-income groups, when required by NEPA. If such investigations find  
30 that minority or low-income groups experience a disproportionate adverse effect, then avoidance  
31 or mitigation measures are to be taken.

32  
33 According to the CEQ, a minority population can be described as being composed of the  
34 following population groups: American Indian or Alaskan Native, Asian or Pacific Islander,  
35 Black, not of Hispanic origin, or Hispanic, and exceeding 50 percent of the population in an area  
36 or the minority population percentage of the affected area is meaningfully greater than the  
37 minority population percentage in the general population (CEQ 1997).

38  
39 Each year, the U.S. Census Bureau defines the national poverty thresholds, which are measured  
40 in terms of household income dependent upon the number of persons within the household.  
41 Individuals falling below the poverty threshold (\$16,400 for a household of four) are considered  
42 low-income individuals. Areas with a considerable percentage (greater than 50 percent) of low-  
43 income individuals within the total population should be indicated for further analysis.

1 The U.S. Census Bureau estimated that the 2000 population of Arapahoe County was 487,967,  
2 an approximately 25 percent increase over 1990 (U.S. Census Bureau 2001a). Approximately 80  
3 percent of the population was White, 8 percent was Black, and 4 percent was Asian, with all  
4 other races accounting for 8 percent. Approximately 12 percent of the population identified  
5 themselves as being of Hispanic origin (ethnicity) (U.S. Census 2001b). The 2000 median  
6 household income was \$50,748, approximately \$10,000 more than the state median (U.S. Census  
7 Bureau 2001a). Six percent of the population fell below the poverty threshold, approximately 4  
8 percent less than the state population (U.S. Census Bureau 2001a). Arapahoe County is not  
9 considered an area with a concentrated minority population, or a concentrated low-income  
10 population; however, there could be pockets of these populations within the county.

**SECTION 3.0**  
**AFFECTED ENVIRONMENT**

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## SECTION 4.0 ENVIRONMENTAL CONSEQUENCES

This section of the EA forms the basis for the comparison of the alternatives identified in Section 2.3. As previously mentioned, the proposed facility would be constructed on the undeveloped area east of Aspen Street between the Buckley AFB Fire Station (Building 806) and the Civil Engineering Building (Building 1005) in an area planned for commercial/industrial uses. Alternative 1 is the No Action alternative. The other two alternatives discussed in this section are identical to the proposed action, except in different locations. Many of the effects of the alternatives would be the same as the proposed action, just in a different portion of Buckley AFB. The discussion presents the potential environmental impacts from implementing the proposed action or alternatives and is summarized in **Table 4-1**. **Table 4-1** is a subset of **Table 2-2** comparing only those potential effects discussed here in Section 4.0.

Environmental effects within this EA are analyzed at short-term, long-term, and cumulative levels. According to the CEQ (1997b) in *Considering Cumulative Effects Under the National Environmental Policy Act*, "...Only by reevaluating and modifying alternatives in light of the project cumulative effects can adverse consequences be effectively avoided or minimized." Cumulative effects should be considered in the scoping process of proposed actions to avoid long-term damage to the natural and man-made environments.

Implementing the proposed action or the alternatives considered in this EA could potentially result in cumulative impacts. Cumulative impacts can become important issues when the proposed activity interacts either directly or indirectly with other unrelated actions (past, present, or reasonably foreseeable future). Construction activities scheduled through FY 08 would increase the amount of developed area by approximately 2.8 million SF in new construction, depending on construction scheduling. Total developed areas, including roadways and parking on Buckley AFB, would equal approximately 6.7 million SF by the end of FY 08, if all projects are completed within this period (Buckley AFB 2002b). If all projects are constructed or demolished according to current schedules, there would be a total increase of approximately 35.7 percent in developed surfaces on Buckley AFB by the end of FY 08. A full analysis of the cumulative impacts of all construction activities is currently being undertaken by Buckley AFB as part of implementing the Capital Improvements EA, which analyzes all projects described within the November 2002 General Plan; therefore, only cumulative impacts due to the proposed construction and operation activities of the consolidated fuels area and the demolition of the existing tank farm are identified here. The construction of the consolidated fuels area would involve the development of approximately 8.4 acres or about 1.0 percent of the planned total development activities on Buckley AFB. This proposed construction activity would increase the amount of impervious and built surfaces within the installation; however, construction and operational BMPs would reduce or avoid any immediate adverse impacts to the natural and man-made environments at Buckley AFB.

**SECTION 4.0**  
**ENVIRONMENTAL CONSEQUENCES**

**Table 4-1. Summary of Environmental Consequences to Those Resources Analyzed in Detail**

<b>Environmental Attributes (by Section) (Threshold Criteria)</b>	<b>Proposed Action</b>	<b>No Action</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
4.1 Surface Water Resources and Stormwater Drainage (How many surface water features would be affected?) (Would there be a change in physical or biological water quality parameters?) (Would there be a substantial increase in stormwater flow?) (Would there be a substantial alteration of localized drainage patterns?)	0 NO NO NO	0 NO NO NO	1 NO NO NO	0 NO NO NO
4.2 Air Quality (Would the action increase pollution above de minimis standards?)	NO	NO	NO	NO
4.3 Biological Resources (How many acres of vegetation would be affected?) (How many federally listed threatened and/or endangered species would potentially be affected?) (How many state species or habitats of concern would potentially be affected?)	8.4 0 2	0 0 0	8.4 0 2	8.4 0 2
4.4 Noise (Would the action create an unacceptable permanent increase in noise above ambient conditions?)	NO	NO	NO	NO
4.5 Land Use and Transportation (Is the proposed action inconsistent with adjacent land uses [current and planned]?)	NO	NO	NO	NO
4.6 Public Utilities (Would there be an unacceptable change in the level of service?) (Would the level of wastewater generated increase?)	NO NO	NO NO	NO NO	NO NO
4.7 Hazardous Materials and Substances (Will existing solid/hazardous waste and debris be left onsite?) (Will closure of current fuel farm be inconsistent with the requirements of 7 CCR 1101-14?) (Would there be an increased usage of hazardous materials?) (Would there be an increased generation of hazardous wastes?)	NO NO NO NO	YES YES NO NO	NO NO NO NO	NO NO NO NO
4.8 Social or Economic Resources (Including Environmental Justice) (Would there be an unacceptable change in personal income or employment?) (How many minority and/or low-income populations would be affected?)	NO 0	NO 0	NO 0	NO 0

**Note:** This table includes only those resources or issues analyzed in detail in Section 4.0. Table 2-2 lists the full array of resource and issue areas.

Certain resource areas and issues were eliminated from detailed analysis in this EA due to the absence of the resources within or adjacent to the proposed sites or due to previous impacts. Since these areas would not be impacted either in the short or long term through implementing the proposed action or one of the alternatives, it is unlikely that any cumulative impacts would occur. Those resource areas or issues that were eliminated included groundwater resources, wetlands, 100-year floodplain, soils, historic or archeological resources, the ERP, and radon. The following resource areas are covered in this section: surface water resources and stormwater drainage, air quality, biological resources, noise, land use and transportation, public utilities, hazardous materials and substances, and social or economic resources.

#### **4.1 SURFACE WATER RESOURCES AND STORMWATER DRAINAGE**

This section evaluates whether implementing the proposed action or the alternatives could change surface water flows and point- and nonpoint-source discharges, which could disturb or alter localized surface water features. Point source and nonpoint-source discharges are quantified in terms of land use area and in stormwater and non-stormwater flow before, during, and after construction activities. Potential effects to surface water resources are quantified in this EA by acreage or linear distance of surface waters affected and by a rise in the level of physical and biological parameters, as defined by the CDPHE. The ROI for this resource area includes the sub-watershed along the western portion of the installation adjacent to the proposed site.

##### **4.1.1 Proposed Action**

Implementing the proposed action would not result in significant impacts to surface water resources or stormwater drainage. Small changes in surface water drainage are expected as a result of the proposed action. BMPs to control stormwater runoff from the construction site would be implemented to reduce the potential for short-term soil erosion and contaminated stormwater flows.

##### **4.1.1.1 Construction and Demolition Activities**

During construction and demolition activities associated with the proposed facility, no change in the amount of stormwater flow is anticipated. The land surface would change from undeveloped to open land (unvegetated), so soil erosion would be a major concern. Regular inspection and maintenance of stormwater collection points, such as catch basins, would ensure containment of construction debris, displaced silt, and fuel, oil, grease, and coolants from construction equipment. As discussed earlier, in accordance with the National Pollutant Discharge Elimination System (NPDES) and USEPA requirements, coverage under the USEPA Construction General Permit would be obtained, and a site-specific SWPPP would be implemented in accordance with the proposed base-wide SWPPP to reduce the potential for soil erosion and contaminated stormwater and surface water flows due to construction activities.

#### 4.1.1.2 Operations

Implementing the proposed action would reduce the annual evapotranspiration and infiltration near the proposed site by an estimated 1.4 acre-feet per year. This, in turn, would increase stormwater flows by an equivalent 1.4 acre-feet per year (**Table 4-2**), which would be discharged into East Toll Gate Creek at the associated stormwater outfall location. Although small changes in annual flow would be realized, the proposed action would not likely alter physical characteristics, including course, channel width, slope, soil characteristics, sediment profile, or flow direction of any of the surface water near the existing tank farm or the proposed site for the consolidated fuels area. The changes in impervious surfaces include the demolition of the existing facility (4.0 acres) and construction of the proposed consolidated fuel farm, access roads, fueling station, fuel farm operations building, pumping station and associated parking approximately 8.4 acres). Surface waters would remain as described in Section 3.1.

**Table 4-2. Water Transport Conditions Before and After Implementation of the Proposed Action**

Surface	Area (Acres)	Water Transport (Acrefeet/Year)				
		Precipitation	Stormwater Flow	Evapo- transpiration	Shallow Infiltration	Deep Infiltration
Pre-construction Conditions						
Impervious	4.0	5.2	5.2	0.0	0.0	0.0
Pervious	8.4	11.1	1.1	4.4	2.8	2.8
Total	12.4	16.3	6.3	4.4	2.8	2.8
Post-construction Conditions						
Impervious	8.4	11.1	11.1	0.0	0.0	0.0
Pervious	4.0	5.2	5.2	2.1	1.3	1.3
Total	12.4	16.3	16.3	2.1	1.3	1.3

Since ASTs would be installed and maintained as part of the proposed action, secondary containment would be installed to control any unexpected releases of hazardous materials from the tanks. Berms or barriers suitable for the size of the ASTs would be installed to contain the materials stored in the ASTs in the event of an unexpected release. Rainwater falling in this area would be collected within the secondary containment until it could be inspected for contamination. If a sheen were noticed on the collected water, it would be drummed and handled the same as used oil and transported offsite for treatment or disposal. If no sheen it detected, the water would be discharged to the stormwater drainage system or allowed to evaporate. A spill kit suitable for the size and type of transfer activity would be located on site. Routine inspections and maintenance would be performed in the area to ensure containment and clean up of any incidental spills.

**4.1.2 Alternative 1—No Action Alternative**

Because there would be no construction activities as part of the No Action Alternative, surface water resources and stormwater drainage, both during construction and operations, would remain as described in Section 3.1.

**4.1.3 Alternative 2—Locate the Consolidated Fuels Facility Near Building 805**

Runoff from areas north of Building 805 appears to drain through a drainage swale that crosses this site from northwest to south. This drainage would need to be diverted into an underground stormwater drainage if this alternative site was selected, requiring additional engineering and expense. Proper engineering would prevent construction at this location from substantially altering the drainage pattern in the vicinity. Although detailed engineering plans have not been produced for this alternative, it would likely require less conversion of pervious, undeveloped land to impervious, paved surfaces, because the area already has some paved surfaces associated with parking and loading/unloading activities at Building 805. Neither of these differences should significantly affect the quantity or quality of stormwater runoff.

Because this alternative is similar to the proposed action in all other aspects, the effect it would have on water resources, both during construction and operation, would not be significantly different than that of the proposed action.

**4.1.4 Alternative 3—Locate the Consolidated Fuels Facility on the East Side of Airfield**

Stormwater drainage from this site flows northeast and enters Murphy Creek on the eastern edge of the base. The amount of impervious area that drains to Murphy Creek is relatively small. Much of the infrastructure on the west side of the airfield drains to East Toll Gate Creek, while the airfield appears to drain northward into Sand Creek. This alternative would need to convert additional undeveloped land into first open land and then impervious surface, due to the lack of infrastructure on this side of the airfield and the need to install roads and utilities to this location. Because of the undeveloped nature of this side of the airfield, the additional conversion to impervious surface would not have a significant effect on the flow in Murphy Creek.

**4.1.5 Cumulative Impacts**

There would be no significant cumulative impacts to water resources and stormwater drainage due to implementing the proposed action or any of the alternatives. Buckley AFB is currently undergoing a great deal of construction and demolition to support its new mission. This would include the conversion of pervious, undeveloped land to impervious pavement or buildings by approximately 20 percent. More stormwater would runoff due to the increase in impervious surfaces. Estimated average annual stormwater flows are listed in **Table 4-3**. Active BMPs and collection and management of these additional surface waters as implemented through the proposed action would minimize any chance for increased discharge concentrations.



**Table 4-3. Estimated Average Annual Stormwater Flows for Buckley AFB**

Construction Period	Estimated Impervious Surface Area (acres)	Estimated Annual Stormwater Flow <sup>1</sup> (acre-feet/year)	Increase in Stormwater Flow Due to Construction <sup>2</sup> (acre-feet/year)
All Previous Construction	413.9	545.3	0.0
FY 02	432.6	570.0	24.7
FY 03	443.2	583.9	38.6
FY 04	467.8	616.3	71.0
FY 05	479.9	632.2	86.9
FY 06	485.3	639.3	94.0
FY 07	489.7	645.2	99.9
FY 08	492.5	648.9	103.6
FY 09	511.7	674.2	128.9
Proposed Action	8.4	11.1	11.1 <sup>3</sup>
Percent Accounted for by the Proposed Action	1.64%	1.64%	8.61%

<sup>1</sup> Assumes average annual precipitation of approximately 16 inches.

<sup>2</sup> Construction period (FY) flow less the initial estimated flow of 545.3 acre-feet/year.

<sup>3</sup> Because the site of the proposed action is undeveloped area, initial stormwater flow is assumed to be 0 acre-feet/year.

The increase in impervious surfaces would also increase the peak flow rates, potentially leading to flooding. **Table 4-4** is a simplified depiction of how peak stormwater flow rates increase with the amount of impervious surface. Proper engineering design would take into account the time to travel over the impervious surface, the direction of flow and any constraints to flow; therefore, there would not be a cumulative effect on surface water resources or stormwater drainage.

**Table 4-4. Peak Stormwater Flows for Buckley AFB during 10-, 25-, 50-, and 100-Year Storm Events**

Storm Frequency (Years)	Duration (Hrs)	Peak Intensity (In/Hr)	Peak Stormwater Flow Rates (Ft <sup>3</sup> /S)									
			Previous	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	Proposed Action
10	2	0.90	353.1	369.1	378.1	399.1	409.4	414.0	417.8	420.2	436.6	2.1
10	24	0.08	34.5	36.1	37.0	39.0	40.0	40.5	40.8	41.1	42.7	0.2
25	2	1.06	439.4	459.3	470.5	496.6	509.5	515.2	519.9	522.9	543.3	2.6
25	24	0.11	43.8	45.7	46.9	49.5	50.7	51.3	51.8	52.1	54.1	0.3
50	2	1.13	469.7	490.9	502.9	530.8	544.5	550.6	555.7	558.9	580.7	2.7
50	24	0.11	45.3	47.4	48.5	51.2	52.6	53.1	53.6	53.9	56.0	0.3
100	2	1.44	595.3	622.3	637.4	672.8	690.2	698.0	704.4	708.4	736.0	3.5
100	24	0.14	59.3	62.0	63.5	67.0	68.7	69.5	70.2	70.5	73.3	0.3

Ft<sup>3</sup>/S = cubic feet per second

Hrs = hours

In/Hr = inches per hour

Source: WCI 2003

## 4.2 AIR QUALITY

This air quality analysis examines impacts from air emissions that would be associated with the construction of the consolidated fuels facility, the demolition of the existing fuel facilities, and operations at the new consolidated fuels facility. Initially, this analysis was performed using Buckley AFB's 2003 AEI; however, before completion, the 2004 AEI was released. As shown in Section 3.2, the 2004 AEI did not significantly change from the 2003 AEI; therefore, the calculations were not redone using the 2004 AEI.

### 4.2.1 Proposed Action

Implementation of the proposed action would have a minor, temporary impact on local air quality; however, emissions are not expected to exceed the rates specified for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub>; be regionally significant; or contribute to a violation of Title V permit limitations. The primary impact would be directly related to the generation of PM<sub>10</sub> at and around the project area during the construction and at the existing fuel tank farm during demolition. These emissions would primarily be a function of (1) construction activities, such as grading and excavation; (2) movement of dust (wind erosion) from "piled" materials; and (3) mechanical entrainment of road dust.

#### 4.2.1.1 Construction and Demolition Activities

The potential air quality impacts resulting from construction activities would be minor and temporary, and would disperse with distance from the project area. Implementing abatement measures such as proper maintenance of construction vehicles, limiting the size of the disturbance area, and watering unpaved roadways, as necessary, would reduce potential impacts. Watering the disturbed area twice per day would reduce total suspended particulate emissions by as much as 50 percent (USEPA 1995). A PM<sub>10</sub> emissions factor of 36 pounds per acre per day was estimated for this activity with sufficient watering (USEPA 1995). Fugitive particulate emissions due to the heavy construction activities are the only anticipated stationary sources of emissions during the construction phase of the proposed action. These increases would not significantly contribute to a violation of Title V permit limitations (Table 4-5).

**Table 4-5. Annual PM<sub>10</sub> Emissions Compared to Current  
Fugitive Particle Emission**

PM <sub>10</sub> Emissions	Tons per Year
Current Fugitive Particle Emissions	220.7
Proposed Action	5.2
Projected Total With Proposed Action	225.9
Percent Due to Proposed Action	2.3%

Source: BAFB 2003

The USEPA recommends using the modified Pasquill-Gifford plume model outlined in its guidance to "apply a simple screening procedure ..." to determine if a potential air-quality



problem exists" (USEPA 1995). A maximum PM<sub>10</sub> concentration of 137.7 micrograms per cubic meter (µg/m<sup>3</sup>) was modeled to occur at a distance of 269 feet from the construction site boundary. This value was compared to the primary and secondary National Ambient Air Quality Standard (NAAQS) PM<sub>10</sub> for 24 hours of 150 µg/m<sup>3</sup> and found to be less than the standard; therefore an elevated local concentration of PM<sub>10</sub> is not anticipated for this temporary activity. No decrease in visibility and subsequently no impact to airfield operations or aircraft safety is anticipated for the proposed action. Because the grading and construction activities are low to the ground, these estimated concentrations would drop off rapidly in a short distance; as a result, temporary impacts would be local and not regional. These estimates are averages, and at any instant, the actual instantaneous concentration could be higher or lower based on local wind conditions.

Exhaust-related emissions from construction equipment were estimated for diesel-powered, off-road equipment (USEPA 1991; Waier 2001). Criteria pollutant emissions associated with the construction do not exceed the applicability thresholds specified in 40 CFR §93.153 for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub> (Table 4-6). The emissions from the construction phase of the proposed action are not regionally significant because they do not exceed 10 percent of the attainment/maintenance area's total emissions for that particular pollutant (Table 4-7).

**Table 4-6. Estimated Emissions Compared to Applicability Thresholds**

Criteria Pollutants	Applicability Threshold (Tons/Year)	Construction Emissions (Tons/Year)	Demolition Emissions (Tons/Year)	Violates Applicability Threshold
NO <sub>x</sub>	100	7.48	5.97	No
SO <sub>x</sub>	100	0.42	0.41	No
VOCs	50(100)	1.32	0.94	No
CO	100	10.88	8.33	No
PM <sub>10</sub>	100	4.70	5.83	No

NO<sub>x</sub> = oxides of nitrogen

SO<sub>x</sub> = oxides of sulfur

VOCs = volatile organic compounds

CO = carbon monoxide

PM<sub>10</sub> = particulate matter less than 10 microns in diameter

Sources: USEPA 1991; Waier 2001

Prior to dismantling, the existing fuel tanks would be cleaned and closed following the guidance of applicable state and federal regulations; therefore, VOC emissions would be kept to a minimum. Implementing the proposed action would not likely result in air-quality impacts from the release of subsurface ACMs. ACMs are not expected to occur at the proposed site since it would be outside the footprint of structures formerly occupying Buckley AFB that may have contained ACM; however, if any subsurface debris were located during the demolition of the existing facility, activities would be halted and the area would be evaluated. Appropriate response plans would then be developed and implemented, as necessary, per applicable laws and regulations to ensure that contamination, if present, would not be released into the environment.

**Table 4-7. Estimated Emissions Compared to AQCR 36 Total Emissions**

Criteria Pollutants	AQCR 36 Total Emissions (Tons/Day)	Construction Emissions (as % of AQCR 36)	Demolition Emissions (as % of AQCR 36)	Regionally Significant
NO <sub>x</sub>	313	0.0126%	0.0092%	No
SO <sub>x</sub>	180	0.0017%	0.0010%	No
VOCs	507	0.0013%	0.0012%	No
CO	1203	0.0044%	0.0055%	No
PM <sub>10</sub>	70	0.0061%	0.0041%	No

NO<sub>x</sub> = oxides of nitrogen

CO = carbon monoxide

SO<sub>x</sub> = oxides of sulfur

PM<sub>10</sub> = particulate matter less than 10 microns in diameter

VOCs = volatile organic compounds

Sources: CAQCC 2000, 2001a, 2001b; USEPA 1991; Waier 2001

#### 4.2.1.2 Operational Activities

After construction completion, minor operational emissions would result from fuel storage and transfer, the heating and cooling of support building(s) and the movement of government vehicles on Buckley AFB. Associated emissions would not exceed the rates specified for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub>; would not be regionally significant and would not contribute to a violation of Title V permit limitations.

Organic and inorganic HAP emissions that would result from heating and cooling the new consolidated fuels facility have been estimated to be 0.0007 tons per year and are listed by individual organic and inorganic component in **Table 4-8**. The additional HAP emissions constitute less than 0.1 percent of the entire on-base heating and cooling HAP emissions of 0.13 tons (BAFB 2003). Basewide HAP emissions due to tank storage and transfer are currently 0.10 tons per year (BAFB 2003). These emissions should lessen because new tanks should be more efficient at storing fuels with fewer emissions. In addition, the proposed action contains provisions to construct tanks to store and dispense alternative fuels. Artificial fuels such as biodiesel have higher flashpoints than regular diesel fuel, therefore, transfer and storage emissions should be less (National Biodiesel Board 2005).

Because Buckley AFB traditional fuels usage is based on need, as opposed to storage, no significant changes in the fuel need and subsequent tank throughput is expected with the implementation of the proposed action. The non-aircraft fuel use would lessen slightly because of the facilities placement closer to the aircraft apron; however, this reduction is small compared to the aircraft fuel usage, which would not change.

As mentioned above, the proposed action contains provisions to construct tanks to store and dispense alternative fuels. The use of ethanol and biodiesel in Buckley AFB fleet vehicles will reduce Buckley AFB's overall non-road vehicle emissions. Ethanol is essentially 100 percent grain alcohol made unfit to drink produced by fermenting plant sugars. Pure ethanol is rarely

**Table 4-8. Basewide Estimated Hazardous Air Pollutant Emissions**

Constituent	Emission Factor (Pounds/10 <sup>6</sup> Feet <sup>3</sup> )	Fuel (10 <sup>6</sup> Feet <sup>3</sup> )	Total Increase in HAP Emissions (Tons/Year)
<b>Organics</b>			
Benzene	2.10E-03	1.13	7.79E-07
Dichlorobenzene	1.20E-03	1.13	4.45E-07
Formaldehyde	7.50E-02	1.13	2.78E-05
Hexane	1.80E+00	1.13	6.68E-04
Naphthalene	6.10E-04	1.13	2.26E-07
Polycyclic Organic Matter	8.85E-05	1.13	3.28E-08
Toluene	3.40E-03	1.13	1.26E-06
<b>Total</b>			<b>6.98E-04</b>
<b>Inorganics</b>			
Arsenic	2.00E-04	1.13	7.42E-08
Beryllium	1.20E-05	1.13	4.45E-09
Cadmium	1.10E-03	1.13	4.08E-07
Chromium	1.40E-03	1.13	5.19E-07
Cobalt	8.40E-05	1.13	3.12E-08
Lead	5.00E-04	1.13	1.85E-07
Manganese	3.80E-04	1.13	1.41E-07
Mercury	2.60E-04	1.13	9.64E-08
Nickel	2.10E-03	1.13	7.79E-07
Selenium	2.40E-05	1.13	8.90E-09
<b>Total</b>			<b>2.25E-06</b>

HAP = Hazardous Air Pollutant

Source: Buckley AFB 2003

used for transportation; usually it is mixed with gasoline. The most popular blend for light-duty vehicles is known as E85, which contains 85 percent ethanol and 15 percent gasoline. Actual air emissions will vary with engine design; the numbers in **Table 4-9** reflect the potential reductions offered by ethanol (E85), relative to conventional gasoline. **Table 4-9** lists the absolute and percentage decrease in criteria pollutants for Buckley AFB assuming a 20 percent conversion of vehicle miles traveled to the use of alternative fuels.

#### 4.2.2 Alternative 1—No Action Alternative

Selecting the no action alternative would result in no impacts to ambient air quality conditions of the project area or surrounding areas since no construction activities would be undertaken. Ambient air quality conditions would remain as described in Section 3.2. The decision on whether or not to use alternative fuels at Buckley AFB is not part of this proposed action. Because Buckley AFB is committed to using alternative fuels, a storage and dispensing area would become part of a separate action if the no action alternative is selected.

**Table 4-9. Estimated Basewide On-Road Vehicle Emission Reductions  
Due to Proposed Action**

	Actual Emissions (Pounds/Year)			
	CO	VOC	NO <sub>x</sub>	PM
Gasoline Vehicles	76,751	7,523	5,142	83
Emissions With 20% Miles Traveled Converted to E85	70,611	7,298	5,039	80
Diesel Vehicles	12,507	3,080	5,321	364
Emissions With 20% Miles Traveled Converted to Biodiesel	12,232	0	5,343	357
Combined Emission Reduction	6,415	3,306	82	11
<b>Percent Reduction</b>	<b>7%</b>	<b>31%</b>	<b>1%</b>	<b>2%</b>

NO<sub>x</sub> = oxides of nitrogen

SO<sub>x</sub> = oxides of sulfur

VOCs = volatile organic compounds

CO = carbon monoxide

PM<sub>10</sub> = particulate matter less than 10 microns  
in diameter

Source: BAFB 2003; USEPA 2002c; USEPA 2002d

#### **4.2.3 Alternative 2—Locate the Consolidated Fuels Facility Near Building 805**

This alternative would generate the same emissions as the proposed action. The emissions would be closer to medical and administrative land uses (see Section 4.6) and population.

#### **4.2.4 Alternative 3—Locate the Consolidated Fuels Facility on the East Side of Airfield**

Locating the consolidated fuels facility on the east side of the airfield would increase emissions from both construction and operation activities. Construction emissions would increase due to the additional infrastructure, such as roads and utilities, that would need to be installed. These activities would increase the PM<sub>10</sub> emissions from having more open area exposed and would increase the emissions from construction vehicles. Although the construction emissions would be greater than with the proposed action, the concentration of PM<sub>10</sub> is not expected to exceed the NAAQS nor are criteria pollutant emissions expected to exceed the applicability thresholds specified in 40 CFR §93.153 for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub>.

Operations at this facility would also generate greater emissions than the proposed action due to the increased distance that vehicles would drive to get to and from the rest of the base. The operations and maintenance facilities are on the west side of the large runway and vehicle would need to circle the ends of the runways, rather than cross them, to refuel. All other things being equal, greater vehicle-miles produce proportionately greater emissions.

#### **4.2.5 Cumulative Impacts**

There would be no significant cumulative impacts to air quality due to implementation of the proposed action or the alternatives.

#### 4.2.5.1 Construction and Demolition Activities

The PM<sub>10</sub> emissions were identified as the primary pollutant from proposed construction activities. The PM<sub>10</sub> emissions anticipated during construction and demolition activities are listed in **Table 4-10**. These emissions levels do not constitute a significant cumulative impact. The analysis was based on approximate building square footage and surface parking.

**Table 4-10. Basewide PM<sub>10</sub> Emissions for Previous, Proposed, and Reasonably Foreseeable Future Construction Activities**

Emissions	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Basewide PM <sub>10</sub> emissions (tons)—2000 baseline	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1
PM <sub>10</sub> emissions from proposed action (tons)	0.0	0.0	0.0	0.0	2.8	2.8	0.0	0.0
Other previous, proposed, or reasonably foreseeable construction PM <sub>10</sub> emissions (tons)	14.8	1.2	9.4	1.9	0.2	0.5	0.4	17.7
Total (tons)	76.9	63.4	71.5	64.0	65.1	65.4	62.6	79.9
Title V permit limits for potential PM <sub>10</sub> emissions (tons)	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
Percent emissions accounted for by the proposed action	0.0	0.0	0.0	0.0	4.3	4.3	0.0	0.0

#### 4.2.5.2 Operational Activities

There would be minor ongoing operational emissions after completion of construction activities. The emissions due to heating and cooling support of existing and reasonably foreseeable future construction at Buckley AFB are not significant. Total cumulative emissions are not anticipated to exceed the rates specified for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub>; be regionally significant; or significantly contribute to a violation of Title V permit limitations (**Table 4-11**). The analysis was based on approximate occupied building square footage and surface parking. Operational emissions from these new facilities should be minor and not add significantly to Buckley AFB total yearly emissions.

### 4.3 BIOLOGICAL RESOURCES

USFWS and CDOW maintain protected species lists (endangered, threatened, proposed, candidate, or species of concern) for species that occur or could potentially occur within Arapahoe County. If species do occur, implementing the proposed action or alternatives could affect these species and their habitat through ground-disturbing activities and increase in impervious cover. Potential effects to biological resources for both listed and nonlisted species

**Table 4-11. Basewide Emissions for Previous, Proposed, and Reasonably Foreseeable Future Heating and Cooling Activities**

Emissions	Occupied Space (Acres)	Estimated Natural Gas Usage for Heating and Cooling (10 <sup>6</sup> Feet <sup>3</sup> )	CO (Tons/Year)	NO <sub>x</sub> (Tons/Year)	PM <sub>10</sub> (Tons/Year)	SO <sub>x</sub> (Tons/Year)
All previous construction	52.1	199.8	8.2	10.0	0.8	0.1
FY 02	53.4	205.0	8.4	10.2	0.8	0.1
FY 03	58.2	223.5	9.2	11.1	0.8	0.1
FY 04	59.0	226.6	9.3	11.3	0.9	0.1
FY 05	63.9	245.4	10.1	12.2	0.9	0.1
FY 06	66.1	253.9	10.5	12.7	1.0	0.1
FY 07	68.3	262.3	10.8	13.1	1.0	0.1
FY 08	68.3	262.3	10.8	13.1	1.0	0.1
FY 09	68.3	264.2	10.9	13.2	1.0	0.1
Proposed action	0.2	0.7	1.48E-02	3.49E-02	2.82E-03	2.23E-04
Proposed action as a percentage of estimated 2009 heating and cooling emissions			0.1	0.3	0.3	0.3
2000 basewide emissions as baseline			40.2	111.5	71.4	14.9
Proposed action as a percentage of 2000 baseline emissions			0.04	0.03	0.00	0.00

Source: BAFB 2003

will be estimated in this EA based on the number of acres of habitat and/or the number of species affected. The ROI for this resource area is the proposed and alternative sites, as compared to the rest of the installation.

#### 4.3.1 Proposed Action

Implementing the proposed action would not result in substantial impacts to biological resources. The proposed action would remove approximately 8.4 acres of planted crested wheatgrass prairie, which is highly prevalent in disturbed areas and is not considered a sensitive community type. A brief survey of the proposed action location did not identify any noxious species; therefore, it would not be necessary to take steps to reduce the potential of carrying the weeds to other locations.

A 2004 survey for prairie dogs and burrowing owls identified a burrowing owl nest adjacent to the proposed site. This survey did not observe prairie dogs in the proposed site location, but there is potential for them to move into the area before construction begins. In accordance with Buckley AFB policy, surveys would be conducted prior to commencement of construction activities to verify the presence/absence of either black-tailed prairie dogs or burrowing owls. Because burrowing owls may nest in prairie dog burrows, the presence of prairie dogs could indicate the presence of nesting burrowing owls.



Any black-tailed prairie dogs found at the proposed or alternative sites would be removed according to approved lethal and non-lethal prairie dog removal methods, as described and analyzed in the *Supplement to Environmental Assessment (SEA) of Proposed Prairie Dog Practices at Buckley Air Force Base* (BAFB 2001). Because the black-tailed prairie dog was a federal candidate species when the SEA was written, it only describes and analyzes the use of approved lethal removal methods under specific circumstances. Following the delisting of the black-tailed prairie dog, lethal removal methods may be used under any circumstances to eliminate hazards that occur due to the presence of this species (e.g., prairie dogs provide prey for raptors that contribute to bird-aircraft strike hazards).

The three approved methods of removing prairie dogs include:

- Use of toxicants (i.e. fumigation)
- Live capture followed by relocation
- Vegetation management and routine live capture after the initial control effort has been completed (BAFB 2001)

Prairie dog capture and transfer to a raptor facility is an additional, and preferred, method of removing prairie dogs that is now available for use by Buckley AFB. Although this method does not result in the direct mortality of individuals, transfer to a raptor facility could still result in adverse impacts to individual black-tailed prairie dogs because they are part of the prey base for these birds. The impacts to prairie dogs as a result of habitat loss, capture and transfer, or lethal removal would be moderate and long-term; however, because prairie dog burrows have not been seen at the proposed site, no adverse effects on black-tailed prairie dogs are expected.

Similarly, if there were no prairie dog burrows in the proposed project area, there would be no adverse impacts to burrowing owls. If, however, prairie dog burrows are found at the proposed site during pre-construction surveys, prairie dog removal could reduce the availability of burrowing owl nest sites, although nest sites would still be available in other areas of Buckley AFB.

Burrowing owls may be nesting in prairie dog burrows during the breeding season (between March 1 and October 31). To deter a burrowing owl from nesting in or near a construction site, prairie dogs should be removed and burrows destroyed prior to March 1, if at all possible. If nesting burrowing owls are present, a 150-foot (45.72 m) buffer would be established around active nest sites during the breeding season to protect owls from disturbances associated with construction, especially increased noise. Given these measures, direct and short-term impacts to nesting individuals or young burrowing owls from construction-related noise would be negligible.

#### **4.3.2 Alternative 1—No Action Alternative**

Selecting the no action alternative would result in no ground-disturbing activities and, therefore, no alteration/disturbance of existing vegetative cover. Due to the absence of ground-disturbing



activities at the proposed site, vegetation and wildlife, including protected species, would not be impacted.

#### **4.3.3 Alternative 2—Locate the Consolidated Fuels Facility Near Building 805**

The site for Alternative 2 is just east of Aspen Avenue near Building 805. Part of the site is paved while the rest is vegetated in crested wheatgrass prairie (Buckley AFB 2001a). No noxious plant species were identified during a November 2004 pedestrian survey of the site.

A January 2003 reconnaissance of the area for a different project found black-tailed prairie dogs inhabiting the area (EDAW 2003). If this alternative is selected, the site will need to be surveyed for prairie dogs or nesting burrowing owls before construction begins. If burrows were still present, prairie dogs would be removed by one of the approved removal methods discussed under the Proposed Action (Section 4.3.1). If burrowing owls were found nesting in the prairie dog burrows, Buckley AFB would follow the procedures discussed in Section 4.3.1 for protecting the burrowing owls. If burrowing owls are not nesting in the prairie dog burrows, the burrows would be destroyed during construction and the prairie dogs and other inhabitants of the burrows, such as snakes or rabbits, would be displaced or destroyed.

#### **4.3.4 Alternative 3—Locate the Consolidated Fuels Facility on the East Side of Airfield**

At the location selected for Alternative 3, on the east side of the airfield, several noxious weed species were identified (cheatgrass, Canada thistle, musk thistle, and field bindweed.) If this alternative is selected, a noxious weed mitigation plan would need to be implemented to avoid carrying noxious weed plant material from this construction site to other areas of the base where these plants have not already been introduced. This plan would identify where the noxious plants are located and establish locations where construction vehicles would be washed down before exiting the area.

Most of the area proposed for this alternative lies within one of Buckley AFB's black-tailed prairie dog relocation areas. In April 2000, Buckley ANGB developed prairie dog management practices to control the conflict between prairie dogs and the mission of the base and the health and safety of its personnel. Certain control areas were designated where the prairie dog would be removed due to conflicts with base operations, while other areas were designated relocation areas, where prairie dogs could coexist with base activities. The largest of these relocation areas is east of the airfield where Alternative 3 has been sited.

The consolidated fuels facility would not be significantly affected by the presence of prairie dog towns. The area would be graded and cleared before paving, destroying tunnels directly beneath the new facility. Most of the facilities, such as tanks and pipelines, would not be susceptible to prairie dog chewing or other hazards. Conversely, the construction of the fuels facility could have a significant effect on nesting burrowing owls if they inhabit the prairie dog burrows. Although only a small portion of the designated relocation area would be affected by construction, the area would need to be surveyed for the presence of burrowing owl nests just

1 before construction. If burrowing owl nests were present, either the construction would need to  
2 be delayed until the end of nesting season or construction impacts would need to be mitigated as  
3 discussed in Section 4.3.1.

#### 4.3.5 Cumulative Impacts

4  
5  
6  
7 Construction and operational activities associated with the implementation of the proposed  
8 action would remove approximately 8.4 acres of undeveloped vegetation, which is less than 1.0  
9 percent of the total undeveloped surface on Buckley AFB. There are currently no black-tailed  
10 prairie dogs and/or burrowing owls located within the proposed site, and therefore development  
11 associated with the proposed action would not, in the short term, cumulatively impact these  
12 populations on Buckley AFB. If encountered, burrowing owls would be managed under the  
13 guidance of the *Supplemental EA of the Proposed Prairie Dog Management Practices at Buckley*  
14 *AFB*, dated June 2001.

#### 4.4 NOISE

15  
16  
17  
18 This EA evaluates potential changes to existing noise environments that would result from  
19 implementation of the proposed action or alternatives. Construction noise and its potential  
20 impacts on nearby receivers are addressed. Long-term increases in the number of people highly  
21 annoyed by the noise environment, noise-associated adverse health effects to individuals, or  
22 unacceptable increases to the noise environment for sensitive receptors are undesirable effects. A  
23 sensitive receptor is any person or group of persons in an environment where low noise levels are  
24 expected, such as schools, day cares, hospitals, and nursing homes. The ROI for this noise  
25 analysis is the area within a 500 foot radius of the construction site boundary. This is the  
26 estimated distance necessary to attenuate the overall noise environment to a level not noticeably  
27 different from that outside the proposed construction area.

##### 4.4.1 Proposed Action

28  
29  
30  
31 Implementing the proposed action would have a minor, temporary impact on the noise  
32 environment. Construction of the fuels facility would increase the levels of noise within the  
33 immediate project area through the use of heavy equipment. The primary sources of construction  
34 noise would be the soil-moving units (i.e., backhoe or graders), heavy trucks, and additional light  
35 construction equipment (Waier 2001). Changes in DNL of less than 3 dBA are not considered  
36 noticeable (Federal Interagency Committee on Noise [FICON] 1992). Since the existing DNL is  
37 70 dBA, a noticeable change would only be detected by those receptors exposed to DNL 73 dBA  
38 or greater.

39  
40 No sensitive receptors, communities, or individual residences are located within the ROI;  
41 therefore, no sensitive receptors, communities, or individual residences would notice a change in  
42 the overall noise environment during construction activities. Periodically, the construction  
43 equipment may be audible at distances greater than 450 feet from the construction site boundary,  
44 but there would be no significantly noticeable change in the overall noise environment. Brief

1 acoustical events could occur and have minor effects on speech intelligibility by way of brief and  
2 unnoticeable interruptions in communication. Due to the daytime hours of construction  
3 operations, no sleep disturbances are expected. In general, the average reaction of receptors  
4 outside the ROI to the noise environment would be the same as if no construction activities were  
5 taking place.

7 Demolition of the existing facilities would involve heavy equipment and potentially the loud  
8 clang of metal against metal. This activity would be completed in a day or two; therefore, the  
9 surrounding area would not be significantly affected by the noise.

11 There are a limited number of noise sources associated with operation of the proposed  
12 consolidated fuels facility. The cars and facility support vehicles generate low-level noise. A  
13 DNL of 72 dBA was estimated at the site boundary for days with eight hours of heavy  
14 operational activities. The estimated change to the *in situ* noise environment will be unnoticeable  
15 beyond the site boundary. Therefore, due to the limited noise levels, frequency and duration of  
16 acoustical events, operation of the proposed consolidated fuels facility would be consistent with  
17 or less than the existing noise levels in the area of the proposed site.

#### 19 **4.4.2 Alternative 1—No Action Alternative**

21 Selecting the no action alternative would result in no impact to the existing noise conditions of  
22 the project area and surrounding areas. Under this alternative, there would be no construction or  
23 operational activities conducted, and as a result, there would be no change in the current noise  
24 environment. It would remain as described in Section 3.4.

#### 26 **4.4.3 Alternative 2—Locate the Consolidated Fuels Facility Near Building 805**

28 Selecting this alternative would move the construction, demolition, and operating noises closer to  
29 sensitive receptors. According to the 2002 General Plan (Buckley AFB 2002b), a new medical  
30 facility would be constructed across the road from this alternative location. Administration  
31 offices exist north of the site. Neither of these two land uses would tolerate well the increased  
32 noise from construction of the facility; however, the construction would be temporary and, once  
33 constructed, the noise level would not substantially exceed current noise levels from the airfield.

#### 35 **4.4.4 Alternative 3—Locate the Consolidated Fuels Facility on the East Side of Airfield**

37 This alternative location is south of the munitions storage area and north of a marine training area;  
38 two areas that would not be impacted by construction or operational noises.

#### 40 **4.4.5 Cumulative Impacts**

42 Implementing the proposed action would have no ongoing or cumulative impacts on the noise  
43 environment. The past, current, and reasonably foreseeable future noise environment in and  
44 around the proposed site is dominated by military jet aircraft noise. The construction and

operational noise from the consolidated fuels area would be insignificant compared to the cumulative noise environment.

#### **4.5 LAND USE AND TRANSPORTATION**

Potential land use impacts are based upon an area's degree of sensitivity to land use changes. Typically, negative land use impacts include: (1) violating or otherwise being inconsistent with adopted land use plans or policies; (2) undermining the viability of a favored existing land use activity; (3) creating threats to the public health, safety, and welfare of the occupants of adjacent or nearby land uses; or (4) conflicting with the fundamental mission of an installation. Impacts to transportation networks would be negative if the total capacity of the system was exceeded. The ROI for land use includes the current and planned land uses as described in the Buckley AFB General Plan for the proposed site, as well as the adjacent areas. The ROI for transportation is the installation transportation networks.

##### **4.5.1 Proposed Action**

Implementing the proposed action would be consistent with the Buckley AFB's 2002 General Plan and its designated future land uses. The proposed action is consistent with the planned industrial designation of the proposed site. Additionally, this alternative would be consistent with AICUZ planning and design guidelines. Implementing the proposed action would not adversely impact planned adjacent land use, which is industrial.

Implementing the proposed action would have a positive effect on transportation resources. By having the fuel facility adjacent to the airfield apron, fuel trucks would no longer need to use Buckley AFB roadways to deliver fuel to aircraft. Fuel tankers delivering fuel to the fuel facility would only need to use Aspen Avenue, a main thoroughfare, to get to the industrial area where the fuel facility would be located. They would no longer need to use secondary and tertiary roadways to make their deliveries.

##### **4.5.2 Alternative 1—No Action Alternative**

Selecting the no action alternative would result in conflicts with the planned Buckley AFB land uses. Fuel storage activities would continue at the fuel tank farm including Buildings 200, 300, 302, and 341. These areas will be adjacent to the planned military family housing area and community services, which would be considered incompatible land uses. Under the no action alternative, no construction activities would be undertaken; however, transportation networks would continue to be stressed by fuel delivery trucks on secondary or tertiary roadways to reach the existing fuel tank farm.

##### **4.5.3 Alternative 2—Locate the Consolidated Fuels Facility Near Building 805**

Building 805 and the area where this alternative would be sited is located within the Aircraft Operations and Maintenance land use designation. Having a fuels facility within this land use

would not pose a land use conflict; however, the areas to the west and north have Medical and Administrative land uses, and these would be in conflict with a fuels facility.

#### **4.5.4 Alternative 3—Locate the Consolidated Fuels Facility on the East Side of Airfield**

This alternative location is in an area designated for open space. Placing the fuels facility at this location does not pose a conflict with the surrounding land use, but it does reduce the open space area on Buckley AFB. The indoor small arms firing range is scheduled to be constructed just southeast of this area.

#### **4.5.5 Cumulative Impacts**

The 2002 General Plan for Buckley AFB was developed to try to prevent land use conflicts while the facilities at Buckley AFB expand. If all upcoming actions adhere to the General Plan, there would be no cumulative land use issues.

### **4.6 PUBLIC UTILITIES**

Potential impacts to public utilities are based upon the capacity of the existing systems and the added requirements of the proposed action. The ROI for this issue area is the installation utility infrastructure system and the adjoining public utility systems.

#### **4.6.1 Proposed Action**

Implementing the proposed action would not result in significant demands on municipal public utilities. The proposed fuels facility is a consolidation of facilities already existing on the base. Although detailed electrical plans for the new facility have not been reviewed, it is not likely that the lighting and pumping electrical demand would be much more than the combined demand of the existing facilities that will be demolished. New facilities requiring water and sewer hook-ups may be constructed at the site of the proposed action; however, the operation itself would not generate additional usage of these systems. The proposed action would require the extension of the existing utility structure from the Civil Engineering facility to the operations building, a distance of less than 1,000 feet.

The proposed action would produce construction and demolition debris that would be recycled or disposed of at an approved off-base landfill. In 2004, Buckley AFB recycled roughly 35 percent of its solid, non-hazardous waste. Most of the old tanks and piping materials would be recyclable, as well as some of the other construction debris. The amount of demolition debris generated by this project would not likely over-burden the existing landfill capacity to accept it.

#### **4.6.2 Alternative 1—No Action Alternative**

Selecting the no action alternative would result in no changes to the public utilities in and around Buckley AFB. There would be no construction of new facilities and no increase in demand for



1 utilities, such as energy or water services. As a result, baseline conditions would remain as  
2 described in Section 3.7.

#### 3 4 **4.6.3 Alternative 2—Locate the Consolidated Fuels Facility Near Building 805**

5  
6 As with the proposed action, this alternative would not result in significant additional demands  
7 on municipal public utilities. Because of its proximity to Building 805, this location would likely  
8 require less distance for utilities to be connected to existing facilities.

#### 9 10 **4.6.4 Alternative 3—Locate the Consolidated Fuels Facility on the East Side of Airfield**

11  
12 Again, this alternative is not likely to result in significant additional demands on municipal  
13 public utilities due to the demolition of existing facilities. This alternative would, however,  
14 require extensive construction of utility transmission and delivery facilities due to its isolated  
15 nature on the east side of the airfield. The future indoor small arms range will be sited just east of  
16 the south end of this alternative location.

#### 17 18 **4.6.5 Cumulative Impacts**

19  
20 Future development at Buckley AFB could cumulatively double utility demand between FY 04  
21 and FY 09 over current usage based on planned square footage increases at Buckley AFB.  
22 Implementing the proposed action would require continued use of existing public utilities, but  
23 would not require an increase in demand for these services; therefore, it would not contribute to  
24 the cumulative impact on public utilities.

### 25 26 **4.7 HAZARDOUS MATERIALS AND SUBSTANCES**

27  
28 Implementing the proposed action or alternatives could affect hazardous materials (including  
29 POLs) and hazardous wastes. Potential effects associated with hazardous materials would be  
30 determined by the absence/presence of listed facilities within standard search radii, the hazardous  
31 materials/waste management requirements associated with construction activities, the potential  
32 increase in usage or storage, or an increase in the potential health and safety risks posed by  
33 hazardous materials. The ROI for this issue area would be the proposed or alternative sites and  
34 immediately adjacent areas.

#### 35 36 **4.7.1 Proposed Action**

37  
38 Implementing the proposed action would not result in adverse impacts from hazardous materials  
39 or hazardous wastes at Buckley AFB. During construction of the consolidated fuels facility,  
40 minor amounts of hazardous wastes would be created from maintenance of the heavy equipment.  
41 Demolition of the existing fuel storage facilities would likely create small amounts of waste  
42 POLs from cleaning the storage tanks. These small amounts of hazardous waste would be  
43 handled as required by applicable laws and regulations. The preferred and alternative sites for the  
44 proposed new are not expected to have subsurface hazardous wastes; however, there may be soil  
45 contamination at the present fuel tank locations. If subsurface contamination is identified during



1 demolition, activities would be halted, the soils would be tested and appropriate remediation  
2 would be conducted. Appropriate response plans would be developed and implemented, as  
3 necessary, per applicable laws and regulations to ensure that contamination, if present, would not  
4 be released into the environment.

5  
6 The proposed action would not create an increased demand for hazardous material usage or  
7 storage or hazardous waste generation. Other changes in base operations may increase POL  
8 usage, but the consolidated fuels facility itself would only support the additional usage. The  
9 proposed action would limit the amount of time fuel trucks use installation roadways near  
10 commercial and residential areas; thereby reducing the potential for an uncontained spill of  
11 petroleum products. The new facilities would meet all the requirements for corrosion protection,  
12 spill protection, correct installation, and correct pipe fitting and would have less potential for  
13 equipment failure and/or future spills.

#### 14 15 **4.7.2 Alternative 1—No Action Alternative**

16  
17 Selecting the no action alternative would result in no ground-disturbing activities; therefore,  
18 there would be no alteration or disturbance of soils and no generation of wastes as the result of  
19 construction or demolition activities.

20  
21 The no action alternative would not create an increase in demand for POL use or storage. The  
22 other changes in base activities, however, would still occur and likely result in increase POL  
23 usage. The current facility would not likely be able to handle the increased throughput, and the  
24 facilities could deteriorate even faster, resulting in increased risk of catastrophic failure of some  
25 part of the system; or a release to the environment from inadequate secondary containment and  
26 equipment malfunctions from older equipment. There is also an increased safety concern from  
27 the potential for unauthorized personnel to enter existing fuel farm. Additionally, fuel trucks for  
28 aircraft operations must travel across the base from the aircraft apron and back, which creates  
29 safety concerns associated with the transportation of highly flammable materials on a regular  
30 basis.

#### 31 32 **4.7.3 Alternative 2—Locate the Consolidated Fuels Facility Near Building 805**

33  
34 This alternative would include demolition of the existing fuels facility; therefore it would result  
35 in the use of hazardous materials and the generation of hazardous wastes, the same as with the  
36 proposed action. Wastes from these activities would be handled as required by applicable laws  
37 and regulations.

38  
39 This alternative location is adjacent to former ERP Site #6, Aircraft Parking Apron and Drainage  
40 Ditch. The investigation of this ERP site revealed that there was no need for cleanup and the site  
41 was administratively closed. No subsurface hazardous wastes or ACMs would be expected at the  
42 location of this alternative; however, if any subsurface debris or contamination is located,  
43 activities would be halted and the area would be evaluated. Appropriate response plans would

1 then be developed and implemented, as necessary, per applicable laws and regulations to ensure  
2 that contamination, if present, would not be released into the environment.

3  
4 Siting the consolidated fuels facility at this location would not increase the demand for POL  
5 usage or storage. Other changes in base operations may increase POL usage, but the consolidated  
6 fuels facility itself would only support the additional usage. This alternative would limit the  
7 amount of time fuel trucks use installation roadways near commercial and residential areas;  
8 thereby reducing the potential for an uncontained spill of petroleum products. The new facilities  
9 would meet all the requirements for corrosion protection, spill protection, correct installation,  
10 and correct pipe fitting and would have less potential for equipment failure and/or future spills.  
11 In addition, during demolition of the current fuel farm, any contaminated soils encountered  
12 would be removed and disposed of properly. Therefore, this alternative would reduce the  
13 potential health and safety risks posed by POLs.

#### 14 15 **4.7.4 Alternative 3—Locate the Consolidated Fuels Facility on the East Side of Airfield**

16  
17 This alternative would include demolition of the existing fuels facility; therefore it would result  
18 in the use of hazardous materials and the generation of hazardous wastes, the same as with the  
19 proposed action. Wastes from these activities would be handled as required by applicable laws  
20 and regulations.

21  
22 This alternative location includes portions of the ERP site known as #8, the Alleged Aircraft  
23 Burial Site. This ERP site was administratively closed because no evidence of the reported  
24 buried aircraft could be found. If any subsurface debris or contamination is identified during  
25 construction, activities would be halted and the area would be evaluated. Appropriate response  
26 plans would then be developed and implemented, as necessary, per applicable laws and  
27 regulations to ensure that contamination, if present, would not be released into the environment.

28  
29 Locating the consolidated fuels facility on the east side of the airfield would result in an increase  
30 in POL usage. Although the facility would be adjacent to the airfield, fuel trucks would need to  
31 cross the airfield to get to the aprons and hangars for fueling. In addition, the non-aircraft  
32 government-owned vehicles that would use the facility for fueling would have to travel around  
33 the airfield to fuel, which would be a waste of time and fuel.

#### 34 35 **4.7.5 Cumulative Impacts**

36  
37 All hazardous materials and hazardous wastes used or generated during implementation of the  
38 proposed action would be used and disposed of according to all applicable regulations, thereby  
39 ensuring no cumulative impacts. Following all federal, state, and local laws and regulations, all  
40 new materials used for construction would not contain ACM, and if any ACMs were found  
41 during the construction of the facilities, the ACMs would be disposed of following all applicable  
42 regulations, thereby ensuring no cumulative impacts.

1 Implementing the proposed action would not result in cumulative impacts from POLs. The  
2 consolidation of POL activities on Buckley AFB would confine petroleum and other airfield-  
3 related ASTs to one centralized location with greater access to airfield operations. Additionally,  
4 the construction of the new consolidated fuels area would meet or exceed USAF standards for  
5 POL operations and storage, thereby reducing the risk of future releases and/or spills. The  
6 centralized location near the airfield would reduce the amount of time fuel delivery vehicles use  
7 Buckley AFB transportation networks and increase the efficiency of airfield operations.

#### 8 9 **4.8 SOCIAL OR ECONOMIC RESOURCES (INCLUDING ENVIRONMENTAL** 10 **JUSTICE)** 11

12 Based on the analyses in this EA, no adverse environmental impacts would result from the  
13 proposed action. Construction and demolition activities would result in small, temporary air  
14 quality and noise impacts, but they would have long-term positive effects on air quality and  
15 transportation. Because the proposed and alternative actions would not result in adverse  
16 environmental impacts, there would be no disproportionately high and adverse effects on  
17 minority or low-income populations and further environmental justice analysis is not required.

18  
19 The effects of implementing the proposed action or alternatives on the local demographics,  
20 employment, and income potential have been evaluated below. The ROI for socioeconomic  
21 impacts is defined as USCB 2000 Census Tract 71.02, Arapahoe County, Colorado (USCB  
22 2002).

##### 23 24 **4.8.1 Proposed Action** 25

26 Implementing the proposed action would result in small, temporary effects to social or economic  
27 resources, including population, income and employment, and housing, within Arapahoe County  
28 or within the USCB census tract containing Buckley AFB. Construction activities, if provided by  
29 an outside contractor, would be likely to increase short-term spending within the area  
30 immediately surrounding Buckley AFB; however, this impact would have likely occurred  
31 elsewhere in the region, unless new employment opportunities were created or formerly  
32 unemployed workers found employment. Construction spending would be concentrated within  
33 the local area, thereby reducing the probability of a change in population growth based on this  
34 alternative. Without a change in the population growth rate, housing starts would likely remain  
35 static. The only anticipated impacts from implementing the proposed action would be the short-  
36 term spending increase for goods and services (food and beverage retailers) within the immediate  
37 vicinity of Buckley AFB, which would subside after construction activities have concluded.

##### 38 39 **4.8.2 Alternative 1—No Action Alternative** 40

41 Selecting the no action alternative would result in no impacts to social or economic resources,  
42 including population, income and employment, or housing, in Arapahoe County or within the  
43 USCB census tract containing Buckley AFB.  
44

**4.8.3 Alternative 2—Locate the Consolidated Fuels Facility Near Building 805**

There would be no difference between the effects on social or economic resources produced by the proposed action and the selection of this alternative.

**4.8.4 Alternative 3—Locate the Consolidated Fuels Facility on the East Side of Airfield**

There would be no difference between the effects on social or economic resources produced by the proposed action and the selection of this alternative.

**4.8.5 Cumulative Impacts**

There would be no cumulative social or economic impacts due to the proposed action or alternative since there would not be an increase or decrease in total employment at Buckley AFB.

**SECTION 5.0**  
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**SECTION 6.0**  
**DISTRIBUTION LIST AND**  
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CU-Boulder University  
Government Public Library  
1720 Pleasant Street,  
Boulder, CO 80309

**SECTION 6.0**  
**DISTRIBUTION LIST AND AGENCIES AND INDIVIDUALS CONTACTED**

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## SECTION 7.0 REFERENCES

- Air Pollution Control Division (APCD). 2002. Redesignation Status Report. Colorado Department of Public Health and Safety. [http://www.cdphe.state.co.us /ap/down/redesignations.htm](http://www.cdphe.state.co.us/ap/down/redesignations.htm). Accessed 11 December.
- American National Standards Institute (ANSI). 1994. Acoustical Terminology. ANSI S1.1-1994.
- Buckley Air Force Base (BAFB). 2001. 2000 Air Emissions Inventory, Buckley Air Force Base, Colorado. Published by URS Corporation. May.
- Buckley Air Force Base (BAFB). 2002a. History of Buckley Air Force Base. <http://www.buckley.af.mil>. Accessed 11 September.
- Buckley Air Force Base (BAFB). 2002b. General Plan for Buckley Air Force Base, Colorado. Final. November.
- Buckley Air Force Base (BAFB). 2002c. Integrated Natural Resources Management Plan. Draft. November.
- Buckley Air Force Base (BAFB). 2003. 2003 Air Emissions Inventory, Buckley Air Force Base, Colorado.
- Buckley Air Force Base (BAFB). 2004. 2004 Air Emissions Inventory, Buckley Air Force Base, Colorado.
- Buckley Air National Guard Base (BANGB). 1997. *Master Plan*. Colorado Air National Guard. Aurora, Colorado.
- Buckley Air National Guard Base (BANGB). 2000. Integrated Cultural Resources Management Plan. Draft Final. Published by Foothill Engineering. November.
- Buckley Air National Guard Base (BANGB). 2004. Final Environmental Assessment for Proposed Construction Projects for the 140<sup>th</sup> Wing Colorado Air National Guard. Prepared by Air National Guard Readiness Center, Civil Engineering Division, Andrews Air Force Base, Maryland. September.
- City of Aurora. 2002. Community Information. <http://www.ci.aurora.co.us>. Accessed 05 December.
- Colorado Air National Guard (COANG). 2000. Basewide Environmental Baseline Survey. Buckley Air National Guard Base. HQ AFCEE, Brooks AFB, San Antonio, Texas.
- Colorado Air Quality Control Commission (CAQCC). 2000. Carbon Monoxide Redesignation Request and Maintenance Plan for the Denver Metropolitan Area. Denver.
- Colorado Air Quality Control Commission (CAQCC). 2001a. Ozone Redesignation Request and Maintenance Plan for the Denver Metropolitan Area. Denver.
- Colorado Air Quality Control Commission (CAQCC). 2001b. PM<sub>10</sub> Redesignation Request and Maintenance Plan for the Denver Metropolitan Area. Denver.
- Colorado Division of Wildlife (CDOW). 2002a. Colorado Species Occurrence and Abundance Tool: Arapahoe County. Natural Diversity Information Source (NDIS). [http://ndis.nrel.colostate.edu/ndis/countyab/speciesplus/sname/ar\\_oc\\_ab .html](http://ndis.nrel.colostate.edu/ndis/countyab/speciesplus/sname/ar_oc_ab.html). Accessed 03 October.
- Colorado Division of Wildlife (CDOW). 2002b. Colorado Rare Plant Field Guide. Rare Plant Technical Committee. <http://ndis.nrel.colostate.edu/ndis/rareplants /masterlist.html>. Accessed 03 October.

SECTION 7.0  
REFERENCES

---

- 1 Colorado Division of Wildlife (CDOW). 2003. Colorado Listing of Endangered, Threatened, and  
2 Wildlife Species of Concern. <http://wildlife.state.co.us/T&E/list.asp>. Last updated April  
3 2003. Accessed 03 January 2005.
- 4 Council on Environmental Quality (CEQ). 1993. Incorporating Biodiversity Considerations into  
5 Environmental Impact Analysis under the National Environmental Policy Act. January.
- 6 Council on Environmental Quality (CEQ). 1997a. Environmental Justice. Guidance under the  
7 National Environmental Policy Act. 10 December.
- 8 Council on Environmental Quality (CEQ). 1997b. Considering Cumulative Effects under the  
9 National Environmental Policy Act. January.
- 10 EDAW. 2003. Burrowing Owl Survey Report for Buckley Air Force Base.
- 11 Environmental Data Resources, Inc. (EDR). 2002. Radius Map Search, North and South Buckley  
12 Air Force Base, Aurora, Colorado. 11 December.
- 13 Fayette, K., R. Schorr, D. Anderson, and E. Mohr. 2000. Natural Heritage Inventory of Buckley  
14 Air National Guard Base, Arapahoe County, Colorado. Prepared by Colorado Natural  
15 Heritage Program, Colorado State University, Fort Collins, for The Nature Conservancy,  
16 Arlington, Virginia.
- 17 Federal Emergency Management Agency (FEMA). 2003. Floodplain mapping database.  
18 <http://www.hazardmaps.gov/atlas.php>. Accessed 22 November.
- 19 Federal Interagency Committee on Noise (FICON). 1992. Federal Agency Review of Selected  
20 Airport Noise Analysis Issues. August.
- 21 League for the Hard of Hearing. 2002. Noise Levels in Our Environment Fact Sheet.  
22 <http://www.lhh.org/noise/decibel.htm>. Accessed 06 March 2003.
- 23 Kirkman, Allen, Jr. 2004. Mission Briefing for the 460<sup>th</sup> Space Wing. September 15.
- 24 U.S. Air Force (USAF). 1994. Air Quality Compliance. Air Force Instruction 32-7040.
- 25 U.S. Air Force (USAF). 1995. The Environmental Impact Analysis Process. Air Force  
26 Instruction 32-7061.
- 27 U.S. Air Force (USAF). 1998. Environmental Assessment for the Construction of a Base  
28 Exchange and Commissary Complex, Buckley Air National Guard Base, Colorado.  
29 December.
- 30 U.S. Air Force (USAF). 1999a. AICUZ Program Manager's Guide. Air Force Handbook 32-  
31 7084. Air Force Center for Environmental Excellence, San Antonio.
- 32 U.S. Air Force (USAF). 1999b. Air Emissions Inventory Guidance Document for Stationary  
33 Sources at Air Force Installations, Section 24. Institute for Environment Safety and  
34 Occupational Health Risk Analysis, Brooks AFB, San Antonio, Texas. May.
- 35 U.S. Census Bureau (USCB). 1993. 1990 Census of Population and Housing. Detailed Tables  
36 P001, P008, P010, P012, P080A, P117, H001, and H004. <http://factfinder.census.gov>.  
37 Accessed 03 December 2002.
- 38 U.S. Census Bureau (USCB). 2001a. *Census 2000*. Table DP-1. Profile of General Demographic  
39 Characteristics.
- 40 U.S. Census Bureau (USCB). 2001b. Overview of Race and Hispanic Origin. *Census 2000 Brief*.  
41 C2KBR/01-1. March.
- 42 U.S. Census Bureau (USCB). 2002. 2000 Census of Population and Housing. Demographic  
43 Profile. Tables DP-1 - DP-4. <http://www.factfinder.census.gov>. Accessed 19 August.

- 1 U.S. Department of Agriculture (USDA). 1971. *Arapahoe County, Colorado—Soil Survey*. In  
2 cooperation with the Colorado Agricultural Experiment Station. Washington, D.C.
- 3 U.S. Environmental Protection Agency (USEPA). 1985. *Compilation of Air Pollutant Factors*,  
4 Volume II: Mobile Sources (AP-42). 4<sup>th</sup> edition, Ann Arbor. September.
- 5 U.S. Environmental Protection Agency (USEPA). 1991. *Nonroad Engine and Vehicle Emission*  
6 *Study*. Washington, D.C.
- 7 U.S. Environmental Protection Agency (USEPA). 1992. *Stormwater Management for*  
8 *Construction Activities: Developing Pollution Prevention Plans and Best Management*  
9 *Practices*. Washington, D.C.
- 10 U.S. Environmental Protection Agency (USEPA). 1995. *Screening Procedures for Estimating the*  
11 *Air Quality Impact of Stationary Sources*, Revised. EPA-450/R-92-019.
- 12 U.S. Environmental Protection Agency (USEPA). 1998. *Emission Factor Documentation for AP-*  
13 *42 Section 13.2.2 Unpaved Roads*. Washington, D.C.
- 14 U.S. Environmental Protection Agency (USEPA). 2002a. *National Management Measures*  
15 *Guidance to Control Non-point Source Pollution from Urban Areas*. Washington, D.C.
- 16 U.S. Environmental Protection Agency (USEPA). 2002b. *National Ambient Air Quality*  
17 *Standards (NAAQS)*. <http://www.epa.gov/airs/criteria.html>. Accessed 10 December.
- 18 U.S. Environmental Protection Agency (USEPA). 2002c. *Clean Fuels Alternatives: Ethanol*.  
19 EPA420-F-00-035. Washington, D.C.
- 20 U.S. Environmental Protection Agency (USEPA). 2002d. *Clean Fuels Alternatives: Biodiesel*.  
21 EPA420-F-00-032. Washington, D.C.
- 22 U.S. Environmental Protection Agency (USEPA). 2002e. *A Comprehensive Analysis of*  
23 *Biodiesel Impacts on Exhaust Emissions*. EPA420-F-00-032. Washington, D.C.
- 24 U.S. Environmental Protection Agency (USEPA). 2003. *Water-quality Standards Database*,  
25 [http://oaspub.epa.gov/wqsdatabase/wqsi\\_gis\\_report.des\\_use?p\\_arg\\_](http://oaspub.epa.gov/wqsdatabase/wqsi_gis_report.des_use?p_arg_value=COSPUS16&p_reachcode=10190003000125)  
26 [value=COSPUS16&p\\_reachcode=10190003000125](http://oaspub.epa.gov/wqsdatabase/wqsi_gis_report.des_use?p_arg_value=COSPUS16&p_reachcode=10190003000125). Accessed 26 April.
- 27 U.S. Fish and Wildlife Service (USFWS). 2002a. Letter from LeRoy W. Carlson, Colorado Field  
28 Supervisor, USFWS to Lt. Col. Scharff, 460 CES/CC, Buckley AFB; response to Preble's  
29 jumping mouse trapping survey report submitted 01 October 2001. 15 January.
- 30 U.S. Fish and Wildlife Service (USFWS). 2002b. *Federally Listed and Candidate Species &*  
31 *Their Status in Colorado: Arapahoe County*. Received via facsimile from the USFWS  
32 Ecological Field Office, Lakewood, Colorado, on 03 October.
- 33 U.S. Fish and Wildlife Service (USFWS). 2004. Title 50, Code of Federal Regulations, Sections  
34 17.11 and 17.12. <http://ecfr.gpoaccess.gov> on 21 June 2005.
- 35 U.S. Geological Survey (USGS). 1995. *Groundwater Atlas of the United States. Segment 2.*  
36 *Hydrologic Investigations Atlas 730-C*. Reston, Virginia.
- 37 Waier, P.R. 2001. *RSMeans Building Cost Construction Data*. 59<sup>th</sup> Edition. RSMeans  
38 Construction Publishers and Consultants, Kingston, Massachusetts.
- 39 Weather Channel Interactive, Inc (WCI). 2003. *National Oceanic and Atmospheric*  
40 *Administration*. <http://www.weather.com>. Accessed 30 January.

**SECTION 7.0**  
**REFERENCES**

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**SECTION 8.0**  
**ACRONYMS AND ABBREVIATIONS**

1		
2		
3	AAFES	Army/Air Force Exchange Service
4	ACM	Asbestos-Containing Material
5	ADAL	Addition/Alteration
6	AICUZ	Air Installation Compatible Use Zone
7	APCD	Air Pollution Control Division
8	AQCR	Air Quality Control Region
9	AST	Aboveground Storage Tank
10	BAFB	Buckley Air Force Base
11	BANGB	Buckley Air National Guard Base
12	BMP(s)	Best Management Practice(s)
13	CAQCC	Colorado Air Quality Control Commission
14	CDOW	Colorado Division of Wildlife
15	CDPHE	Colorado Department of Public Health and Environment
16	CE	Civil Engineering
17	CEQ	Council on Environmental Quality
18	CES	Civil Engineering Squadron
19	CEVP	Environmental Management
20	CFR	Code of Federal Regulations
21	CO	Carbon Monoxide
22	COANG	Colorado Air National Guard
23	COARNG	Colorado Army National Guard
24	dBA	A-Weighted Decibel Level
25	DNL	Day-Night Average Sound Level
26	EA	Environmental Assessment
27	EDR	Environmental Data Resources, Inc.
28	EIAP	Environmental Impact Analysis Process
29	ERP	Environmental Restoration Program
30	ESA	Endangered Species Act
31	FEMA	Federal Emergency Management Agency
32	FICON	Federal Interagency Committee on Noise
33	FONSI	Finding of No Significant Impact
34	ft <sup>3</sup>	Cubic Feet
35	ft <sup>3</sup> /s	Cubic Feet Per Second
36	FY	Fiscal Year
37	HAP	Hazardous Air Pollutants
38	hrs	Hour(s)
39	INRMP	Integrated Natural Resources Management Plan
40	in/hr	Inch(es) Per Hour
41	lb/yr	Pound(s) Per Year
42	µg/m <sup>3</sup>	Microgram(s) Per Cubic Meter
43	MOGAS	Motor Gasoline

**ACRONYMS AND ABBREVIATIONS  
(Cont'd)**

1		
2	NA	Not Applicable
3	NAAQS	National Ambient Air Quality Standards
4	NAF	Non-Appropriated Funds
5	NEPA	National Environmental Policy Act
6	NO <sub>x</sub>	Oxides of Nitrogen
7	NOI	Notice of Intent
8	NPDES	National Pollutant Discharge Elimination System
9	O <sub>3</sub>	Ozone
10	PCBs	Polychlorinated Biphenyls
11	PM <sub>10</sub>	Particulate Matter Measuring Less Than 10 Microns in Diameter
12	POL	Petroleum, Oil, and Lubricants
13	ROI	Region of Influence
14	SF	Square Feet
15	SO <sub>x</sub>	Oxides of Sulfur
16	SO <sub>2</sub>	Sulfur Dioxide
17	SW	Space Wing
18	SWPPP	Stormwater Pollution Prevention Plan
19	tpy	Ton(s) Per Year
20	USAF	U.S. Air Force
21	USC	U.S. Code
22	USCB	U.S. Census Bureau
23	USDA	U.S. Department of Agriculture
24	USEPA	U.S. Environmental Protection Agency
25	USFWS	U.S. Fish and Wildlife Service
26	USGS	U.S. Geological Survey
27	VOC	Volatile Organic Compound

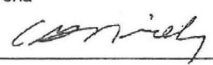
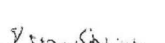
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**APPENDIX A**

**USAF FORM 813**

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REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS		Report Control Symbol CRWU073008
INSTRUCTIONS: Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on Separate Sheets as necessary. Reference appropriate item number(s).		
SECTION I - PROPONENT INFORMATION		
1. TO (Environmental Planning Function)	2. FROM (Proponent organization and functional address symbol)	2a. TELEPHONE NO.
460 CES/CEV	460 CES/CEC	303-677-6819
3. TITLE OF PROPOSED ACTION Consolidated Fuels Facility		
4. PURPOSE AND NEED FOR ACTION (Identify decision to be made and need date). Construct a new consolidated fuels facility to be located closer to the airfield. The purpose of the project is to relocate the existing facility from an area planned for development of 332 family housing units and a community area. Demolition of the existing facility is included in the project. Construction start is required by 1 November 2004.		
5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPPA) (Provide sufficient details for evaluation of the total action). See attached		
6. PROPONENT APPROVAL (Name and Grade)	6a. SIGNATURE	6b. DATE
Charles Nicely, GS-11		7 Jan 2003
SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. (Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = Unknown effect).		+ 0 - U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (Noise, accident potential, encroachment, etc.)		X
8. AIR QUALITY (emissions, attainment status, state implementation plan, etc.) Fugitive dust during construction;		X
9. WATER RESOURCES (Quality, quantity, source, etc.) Stormwater during and after construction		X
10. SAFETY AND OCCUPATIONAL HEALTH (Asbestos/radiation/chemical exposure, explosives safety quantity-distance, etc.) Safety During construction		X
11. HAZARDOUS MATERIALS/WASTE (Use/storage/generation, solid waste, etc.) Use of hazardous materials during construction.		X
12. BIOLOGICAL RESOURCES (Wetlands/floodplains, flora, fauna, etc.) Potential adverse effects to prairie dogs and/or burrowing owls.		X
13. CULTURAL RESOURCES (Native American burial sites, archeological, historical, etc.)		X
14. GEOLOGY AND SOILS (Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)		X
15. SOCIOECONOMIC (Employment/population projections, school and local fiscal impacts, etc.) Assuming the additional employees currently reside in the local commuting area.		X
16. OTHER (Potential impacts not addressed above.)		X
SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION		
17.	PROPOSED ACTION QUALIFIES FOR A CATEGORICAL EXCLUSION (CATEX #) _____; OR	
X	PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.	
18. REMARKS		
19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade) Elise L. Sherva, GS-12		
19a. SIGNATURE		19b. DATE
		18 Jan 03

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## **APPENDIX B**

### **REPRESENTATIVE PHOTOGRAPHS**

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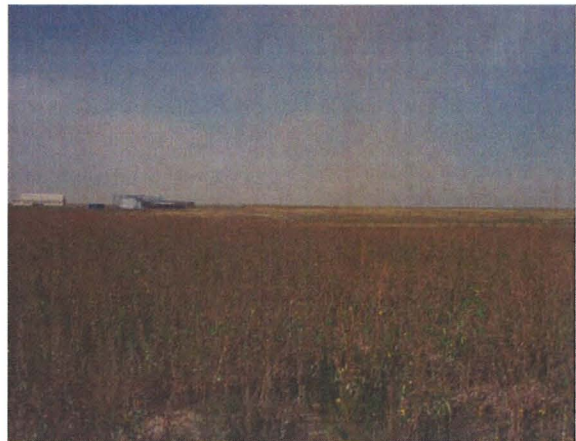
Photograph 1: Proposed Site looking southeast



Photograph 2: Proposed Site looking northeast

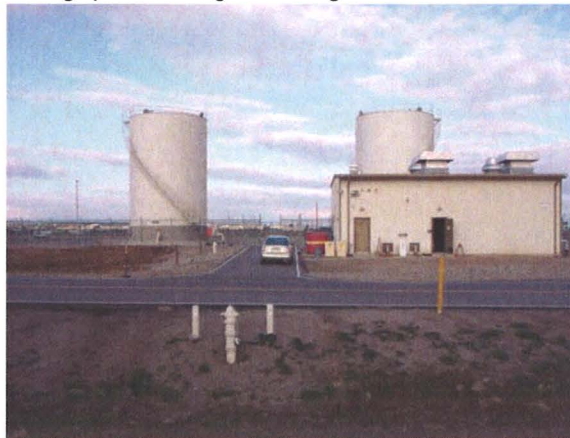


Photograph 3: Proposed site looking west



Photograph 4: Proposed site looking northwest

Photograph 5: Building 200 looking west



Photograph 6: Fueling station tanks looking west



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## **APPENDIX C**

### **NOTICE OF AVAILABILITY AND AFFIDAVIT OF PUBLICATION**

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## Notice of Availability

Interested parties are hereby notified that Buckley Air Force Base (BAFB) has prepared a Draft Environmental Assessment (EA) and a Draft Finding of No Significant Impact (FONSI) for the proposed construction and operation of a consolidated fuels facility and the demolition of the existing fuel farm at BAFB, Colorado.

**Statutory Authority.** This notice is being issued to interested parties in accordance with the National Environmental Policy Act (Public Law [PL] 91-190, 42 United States Code 4321 et seq.) as amended in 1975 by PL 94-52 and PL 94-83.

**Purpose.** The purpose of the proposed action is to meet the fuel storage and distribution requirements at BAFB and to reduce air pollution from the existing facilities while adding the equipment necessary for using alternative fuels at BAFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs. The tank farm is also currently located in an incompatible land use area. Planned land uses in the immediate area of the tank farm include the development of military family housing and community services. Additionally, fuel trucks for aircraft operations currently must travel across the base between the existing fuel facility and the flightline. This creates safety concerns associated with the transportation of highly flammable materials on a regular basis through incompatible land uses within the base transportation network. The draft EA analyzes the proposed action, as well as four alternatives (no action alternative, two alternative locations, and upgrade of the existing facility).

**Comments:** Comments on the Draft EA should be directed to Ms. Janet Wade, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551, (720) 847-9977. The comment period is open for 30 days from 7 September 2005 following the publication of this notice in a general circulation newspaper. Copies of the Draft EA are available for review by the public at the Aurora Central Library, 14949 E. Alameda Drive, Aurora, Colorado 80012; the Denver Public Library, Government Documents Section, 10 West 14<sup>th</sup> Avenue, Denver, Colorado, 80204; and the CU-Boulder University Government Public Library, 1720 Pleasant Street, Boulder, CO 80309, 303-492-8834. Copies of the referenced Consolidated Fuels EA or this document can be obtained by writing to BAFB at the address above.



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**AURORA SENTINEL  
PROOF OF PUBLICATION**

**STATE OF COLORADO  
COUNTY OF ARAPAHOE }ss.**

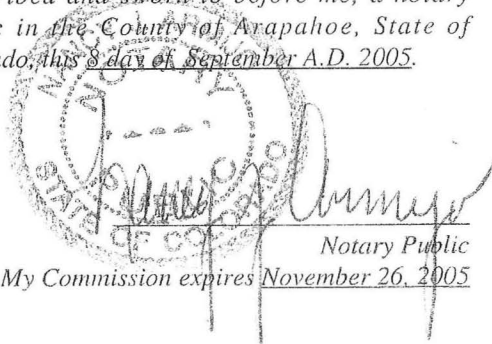
*I HARRISON COCHRAN, do solemnly swear that I am the PUBLISHER of the AURORA SENTINEL; that the same is a weekly newspaper published in the County of Arapahoe, State of Colorado and has a general circulation therein; that said newspaper has been published continuously and uninterruptedly in said County of Arapahoe for a period of more than fifty-two consecutive weeks prior to the first publication of the annexed legal notice or advertisement; that said newspaper has been admitted to the United States mails as second-class matter under the provisions of the Act of March 30, 1923, entitled "Legal Notices and Advertisements", or any amendments thereof, and that said newspaper is a weekly newspaper duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Colorado.*

*That the annexed legal notice or advertisement was published in the regular and entire issue of every number of said weekly newspaper for the period of 1 consecutive insertions; and that the first publication of said notice was in the issue of said newspaper dated September 8 A.D. 2005 and that the last publication of said notice was in the issue of said newspaper dated September 8 A.D. 2005.*

*In witness whereof I have hereunto set my hand this 8 day of September.*

*H. Harrison Cochran*

*Subscribed and sworn to before me, a notary public in the County of Arapahoe, State of Colorado, this 8 day of September A.D. 2005.*

  
*Harrison Cochran*  
Notary Public  
My Commission expires November 26, 2005

**Notice of Availability**

Interested parties are hereby notified that Buckley Air Force Base (BAFB) has prepared a Draft Environmental Assessment (EA) and a Draft Finding of No Significant Impact (FONSI) for the proposed construction and operation of a consolidated fuels facility and the demolition of the existing fuel farm at BAFB, Colorado.

**Statutory Authority.** This notice is being issued to interested parties in accordance with the National Environmental Policy Act (Public Law [PL] 91-190, 42 United States Code 4321 et seq.) as amended in 1975 by PL 94-52 and PL 94-83.

**Purpose.** The purpose of the proposed action is to meet the fuel storage and distribution requirements at BAFB and to reduce air pollution from the existing facilities while adding the equipment necessary for using alternative fuels at BAFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs. The tank farm is also currently located in an incompatible land use area. Planned land uses in the immediate area of the tank farm include the development of military family housing and community services. Additionally, fuel trucks for aircraft operations currently must travel across the base between the existing fuel facility and the flightline. This creates safety concerns associated with the transportation of highly flammable materials on a regular basis through incompatible land uses within the base transportation network. The draft EA analyzes the proposed action, as well as four alternatives (no action alternative, two alternative locations, and upgrade of the existing facility).

**Comments:** Comments on the Draft EA should be directed to Ms. Janet Wade, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551, (720) 847-9977. The comment period is open for 30 days from 8 September 2005 following the publication of this notice in a general circulation newspaper. Copies of the Draft EA are available for review by the public at the Aurora Central Library, 14949 E. Alameda Drive, Aurora, Colorado 80012; the Denver Public Library, Government Documents Section, 10 West 14th Avenue, Denver, Colorado, 80204; and the CU-Boulder University Government Public Library, 1720 Pleasant Street, Boulder, CO 80309, 303-492-8834. Copies of the referenced Consolidated Fuels EA or this document can be obtained by writing to BAFB

at the address above.  
Published: September 8, 2005  
Aurora Sentinel

**THE Denver Newspaper Agency  
DENVER, CO**

**PUBLISHER'S AFFIDAVIT**

**City and County of Denver,  
STATE OF COLORADO, SS.**

**Cheryl Schmid**

..... being of lawful  
age and being first duly sworn upon oath, deposes and says:

**Legal Advertising Reviewer**

That he/she is the .....  
Of The Denver Newspaper Agency, publisher of the Denver Post and  
Rocky Mountain News, daily newspapers of general Circulation published  
and printed in whole or in part in Denver, in the County of Denver and  
State of Colorado, and that said newspaper was Prior to and during  
all the time hereinafter mentioned duly qualified For the publication of  
legal notices and advertisements within the Meaning of an Act of the  
General Assembly of the State of Colorado,  
Approved April 7, 1921, as amended and approved March 30, 1923;  
And as amended and approved March 5, 1935, entitled "An Act  
Concerning Legal Notices, Advertisements and Publications and the  
Fees of printers and publishers thereof, and to repeal all acts and parts  
Of acts in conflict with the provision of this Act" and amendments  
Thereeto:

That the notice, of which the annexed is a true copy, was published in  
The said newspaper to wit: (dates of publication)

September 7, 2005

Cheryl Schmid  
Signature

Subscribed and sworn to before me this 7 day

Of September A.D. 2005  
Susan Sloan  
Notary Public.

My commission expires 8/15/06



**Notice of Availability**

Interested parties are hereby notified that Buckley Air Force Base (BAFB) has prepared a Draft Environmental Assessment (EA) and a Draft Finding of No Significant Impact (FONSI) for the proposed construction and operation of a consolidated fuels facility and the demolition of the existing fuel farm at BAFB, Colorado.

**Statutory Authority.** This notice is being issued to interested parties in accordance with the National Environmental Policy Act (Public Law [P.L.] 91-190, 42 United States Code 4321 et seq.) as amended in 1975 by P.L. 94-52 and P.L. 94-83.

**Purpose.** The purpose of the proposed action is to meet the fuel storage and distribution requirements at BAFB and to reduce air pollution from the existing facilities while adding the equipment necessary for using alternative fuels at BAFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs. The tank farm is also currently located in an incompatible land use area. Planned land uses in the immediate area of the tank farm include the development of military family housing and community services. Additionally, fuel trucks for aircraft operations currently must travel across the base between the existing fuel facility and the flightline. This creates safety concerns associated with the transportation of highly flammable materials on a regular basis through incompatible land uses within the base transportation network. The draft EA analyzes the proposed action, as well as four alternatives (no action alternative, two alternative locations, and upgrade of the existing facility).

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**APPENDIX D**  
**INTERAGENCY COORDINATION LETTERS**

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DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Dan Beley  
Colorado Department of Public Health and Environment  
Water Quality control Division  
4300 Cherry Creek Drive, South  
WQCD-OA-B2  
Denver CO 80246-1530

Dear Mr. Beley

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

2 Attachments:

1. Draft EA
2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Mac Callison  
Planning, Traffic Division  
City of Aurora  
15151 E. Alameda  
Aurora CO 80012


Dear Mr. Callison

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI





DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Nancy Chick  
Air Pollution Control Division  
Colorado Department of Public Health and Environment  
APCD-TS-B24300  
Cherry Creek Drive, South  
Denver CO 80246-1530

Dear Ms. Chick

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

  
JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Jerry Craig  
Wildlife Researcher  
Colorado Division of Wildlife  
Wildlife Research Center  
317 W. Prospect Road  
Fort Collins CO 80526

Dear Mr. Craig

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado History Museum  
1300 Broadway  
Denver CO 80203-2137

Dear Ms. Contiguglia

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

2 Attachments:

1. Draft EA
2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

John Fernandez  
Planning, Environmental Division  
City of Aurora  
15151 E. Alameda  
Aurora CO 80012

Dear Mr. Fernandez

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

  
JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI





DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Jane Hann  
Environmental Project Manager  
Colorado Department of Transportation  
4201 East Arkansas Ave.  
Denver CO 80222

Dear Ms. Hann

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments
1. Draft EA
  2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Eugene Jansak  
Industrial Waste Specialist  
Metro Wastewater Reclamation District  
6450 York Street  
Denver CO 80229-7499

Dear Mr. Jansak

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

  
JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Ed LaRock  
Federal Facilities HMWM 2800  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive, South  
Denver CO 80246-1530

Dear Mr. LaRock

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI





DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Patricia Mehlhop  
U.S. Fish and Wildlife Service  
PO Box 25486  
Denver CO 80225-0486

Dear Ms. Mehlhop

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

  
JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:  
1. Draft EA  
2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Eliza Moore  
Wildlife Manager  
Colorado Division of Wildlife  
6060 South Broadway  
Denver CO 80216

Dear Ms. Moore

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

2 Attachments:

1. Draft EA
2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Jim Paulmeno  
Manager Environmental Planning  
Colorado Department of Transportation  
4201 East Arkansas Ave.  
Denver CO 80222

Dear Mr. Paulmeno

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

  
JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

David Rathke  
U.S. Environmental Protection Agency, Region 8  
999 18th Street, Suite 500  
Denver CO 80202


Dear Mr Rathke

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

  
JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI





DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Bruce Rosenlund  
Colorado Field Supervisor  
U.S. Fish and Wildlife Service  
755 Parfet Street, Suite 496  
Lakewood CO 80215

Dear Mr. Rosenlund

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

2 Attachments:

1. Draft EA
2. Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Larry Svoboda  
NEPA Unit Chief  
U.S. Environmental Protection Agency, Region 8  
999 18th Street, Suite 500  
Denver CO 80202

Dear Mr. Svoboda

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI





DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Lt Col James P. Page  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Robert Watkins  
Director of Planning  
City of Aurora  
15151 E. Alameda  
Aurora CO 80012

Dear Mr. Watkins

The Air Force has prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base (AFB), CO. The proposed action is part of the 5-year capital improvements program at the base to achieve the overall goal of turning a former Air National Guard base into a fully functioning, active-duty AFB. The need for the proposed action arises because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

Ms. Janet Wade  
460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Wade at 720-847-9977, or via e-mail at [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).



JAMES P. PAGE, Lt Col, USAF  
Base Civil Engineer

- 2 Attachments:
1. Draft EA
  2. Draft FONSI

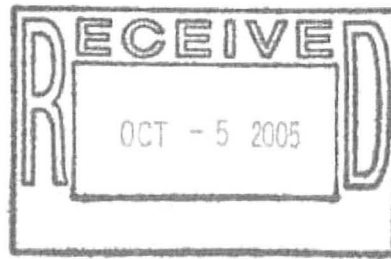
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**APPENDIX E**  
**COMMENTS AND RESPONSES TO COMMENTS**

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Planning Department  
15151 E. Alameda Parkway  
Aurora, Colorado 80012  
Phone: 303-739-7250  
Fax: 303-739-7268  
www.auroragov.org



September 30, 2005

Ms. Janet Wade  
460 CES/CEVP  
660 South Aspen Street (Stop 86)  
Buckley AFB, CO 80011-9551

**Subject: Comments on Draft Environmental Assessment for the Proposed Construction and Operation of a Consolidated Fuels Facility, Buckley AFB, September 2005**

Dear Ms. Wade:

Thank you for providing us the opportunity to comment on the subject document. We have the following comments for your consideration:

**Page 1-1, third paragraph:** The statement that "the current population of Buckley AFB is approximately 88,000..." may overstate the number of personnel on the base. It may be helpful to state that the base has approximately 11,350 active duty, reserve, and civilian and contract employees and that the base serves an additional 77,000 retirees, dependents, and veterans.

**Pages 2-3 and 2-5, air permits for new fuel tanks:** In addition to modifying Buckley's Title V Operating Permit, the base will need to apply for a Construction Permit from the CDPHE Air Pollution Control Division (APCD) for the new fuel tanks. The large JP-8 storage tanks are subject to RACT (Reasonably Available Control Technology) requirements and the specific control technology selected should be described in the EA. The applicant should submit a Construction Permit application for the new tanks as soon as possible, since the APCD generally requires 135 days to issue construction permits for new sources.

**Page 4-8, first paragraph, Air Quality Modeling:** The modeled  $PM_{10}$  concentration of 137.7 micrograms per cubic meter is very close to the  $PM_{10}$  standard of 150 micrograms per cubic meter. The EA should indicate the  $PM_{10}$  background concentration that was used in the model. The APCD may be contacted at 303-692-3150 for information on the appropriate background concentration to use for projects in the Denver metropolitan area.

**Page 4-9, second paragraph, Operational Activities:** The EA should include a comparison of emissions between the existing tanks and the new tanks. It is recommended that an emission estimate be calculated for the new tanks using the EPA TANKS<sup>TM</sup> program or approved equivalent. The EA should also address RACT for the new tanks as well as whether the tanks will be fixed or floating roof, and whether or not vapors will be routed to a control device. We suggest replacement of the statement, "These emissions should lessen because new tanks should be more efficient at storing fuels with fewer emissions," with the results of the TANKS modeling analysis.

Ms. Janet Wade  
September 30, 2005  
Page 2

**Page 4-10, Table 4-8:** We recommend deleting Table 4-8 since the emissions from heating the 3,200 square foot building are insignificant. If the table remains in the document, the title of the table should be corrected. A suggested title is "Increase in HAP Emissions due to Heating the New Consolidated Fuels Facility."

**Page 4-17, third paragraph, Noise:** We suggest replacing the phrase, "The estimated change to the in situ noise environment," with "The estimated change in noise levels."

**Page 4-17, third paragraph, Noise:** We suggest re-phrasing the last sentence of the paragraph to state that, "Noise levels due to the operation of the proposed consolidated fuels facility would be similar to existing noise levels in the area of the proposed site."

Again, thank you for the opportunity to comment on the draft EA. Please feel free to contact Jim Schrack, Environmental Program Supervisor (303-739-7555), John Van Kirk, Airport Noise Coordinator (303-326-8834), or me (303-739-7250) if you have any questions.

Sincerely,



John Fernandez  
Manager of Comprehensive Planning

cc: James Schrack



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

DEC 1 8 2005

Mr. Bruce James  
460th Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Mr. John Fernandez  
Manager of Comprehensive Planning  
City of Aurora  
15151 E. Alameda Parkway  
Aurora CO 80012

Dear Mr. Fernandez

Thank you for your letter, dated 30 September 2005, on the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the Construction of a Consolidated Fuels Facility and Demolition of the Existing Fuel Farm at Buckley Air Force Base (AFB). Responses to your comments follow.

Page 1-1, third paragraph: The EA will be updated to incorporate your information.

Regarding pages 2-3 and 2-5, air permits for new fuel tanks: Thank you for your comments; we will take them under advisement. We assumed that the construction permit would be required as part of the Title V permit modification; therefore, we did not include it under the requirements.

Page 4-8, first paragraph, air quality modeling: The dispersion modeling was based on an analysis of TSP emission factors for Heavy Construction Equipment. Total Suspended Particulate (TSP) emissions are a very conservative approximation for PM10 (USEPA AP-42 Section 13.2.3). Guidance now suggests that only 45% of TSP are less than ten microns in diameter (USEPA AP-42 Section 11.9); therefore, actual fence line concentrations of PM10 should be much lower than those modeled with TSP. This modeling was used to show that PM10 concentrations drop fairly quickly and would not exceed the ambient standards beyond the general construction area. No background concentration was applied.

Page 4-9, second paragraph, Operational Activities: Thank you for your comments. The EA is a pre-decisional document. As such, the tank details needed to conduct the suggested emission comparison are not available. The tank details and modeling results will be submitted to the APCD with the application to modify the Title V Operating Permit and receive a Construction Permit. Even without the details, we think it is reasonable to assume that the



emissions would be less than those from the existing tanks due to newer control technology; therefore, no change to the EA will be made.

Page 4-10, Table 4-8: Thank you for your comment. We will take your suggestion under advisement.

Page 4-17, third paragraph, Noise (both comments): Thank you for your comments. We will take your suggestions under advisement.

If you have any further questions, please contact me at 720-847-7245,  
email: [bruce.james@buckley.af.mil](mailto:bruce.james@buckley.af.mil).

Sincerely,

  
BRUCE R. JAMES  
Chief, Environmental Planning



**COLORADO  
HISTORICAL  
SOCIETY**

FILE \_\_\_\_\_  
INIT \_\_\_\_\_



**The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137**

September 13, 2005

Lt Col James P. Page  
460<sup>th</sup> Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB, CO. 80011-9551

Re: Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base. (CHS #46284)

Dear Lt Col James Page:

Thank you for your correspondence (not dated) and received by our office on September 8, 2005 regarding the above-mentioned project.

After review of the submitted information, we are unable to complete our review of the Draft EA and FONSI. According to our files, we have not received the Section 106 of the National Historic Preservation Act studies for this project. Once we receive and review the Section 106 studies, we will then be able to review and comment on the Draft EA and FONSI.

We recommend that you coordinate your National Environmental Policy Act (NEPA) studies with the studies required under Section 106 of the National Historic Preservation Act. According to 36 CFR 800.8 of Section 106, "Federal agencies are encouraged to coordinate compliance with Section 106 and the procedures in this part with any steps taken to meet the requirements of the National Environmental Policy Act." The findings from the Section 106 studies can inform the NEPA studies, such as including mitigation measures identified under Section 106 into the NEPA decision document.

We have enclosed a flow chart that explains the coordination between Section 106 and NEPA. If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

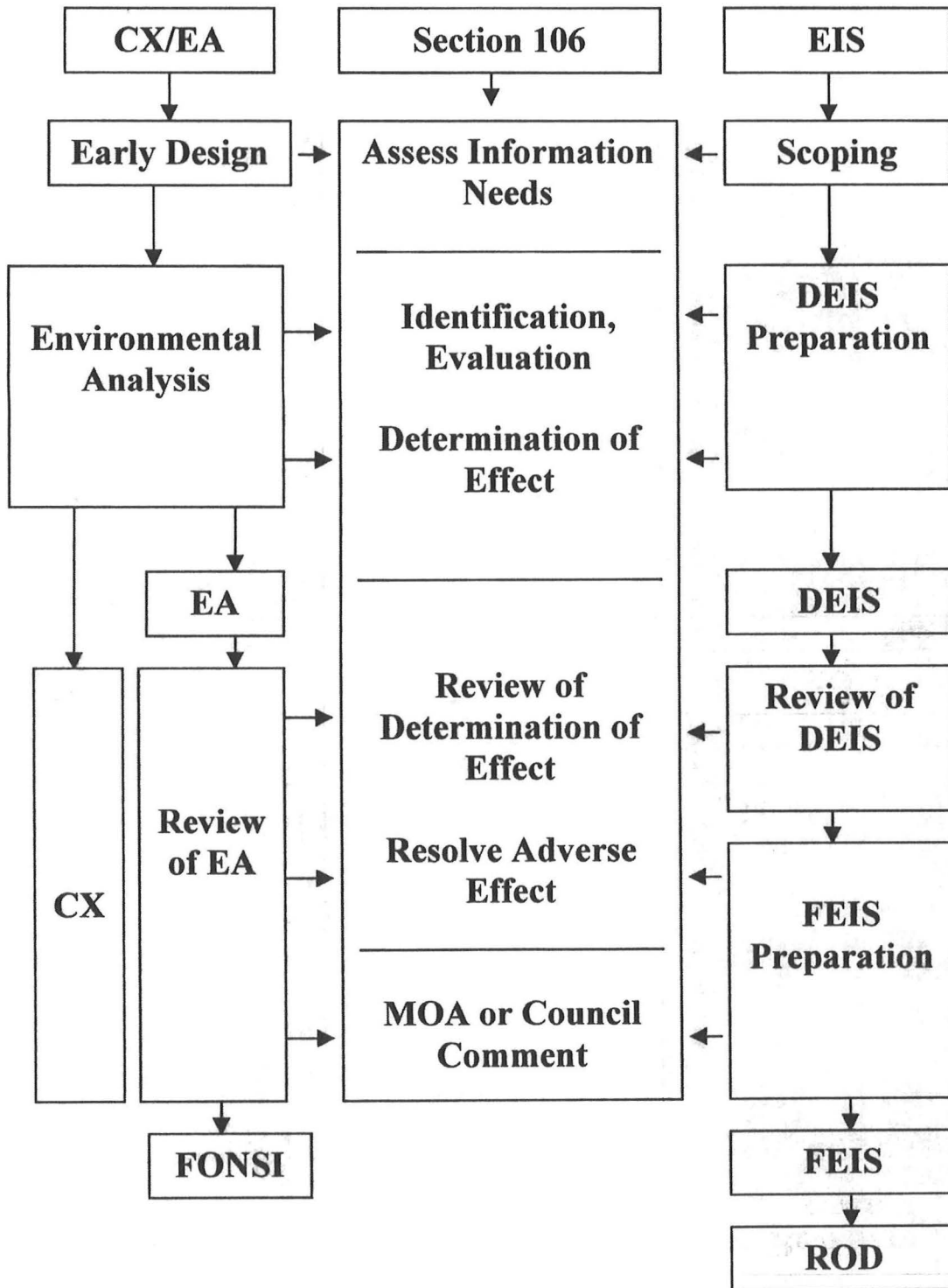
If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

Sincerely,

*Mark Wayne*  
For Georgianna Contiguglia  
State Historic Preservation Officer

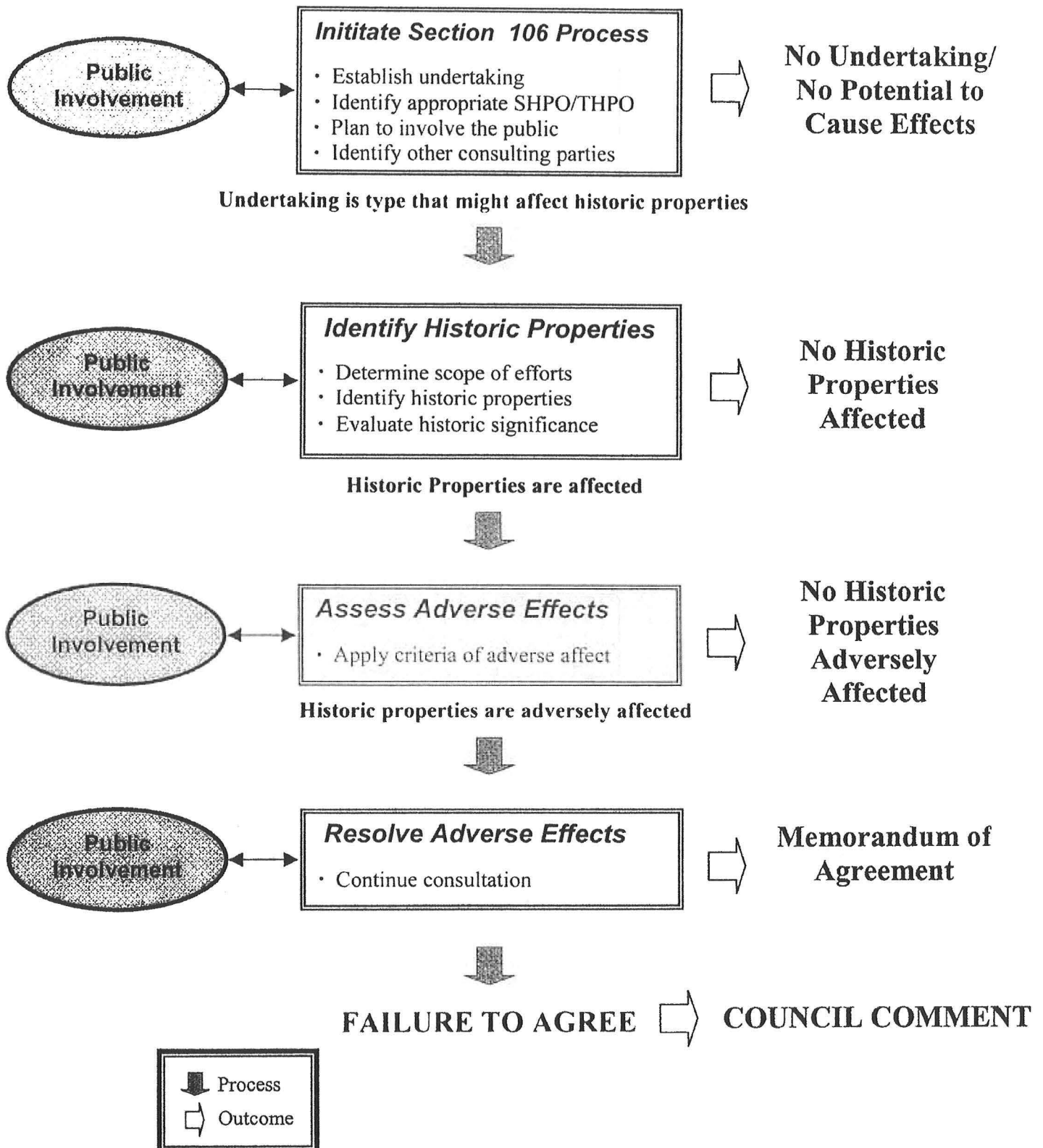
cc: Floyd Hatch/Buckley AFB

## COORDINATION BETWEEN NEPA AND SECTION 106



The Public and Consulting Parties must be notified and given the opportunity to comment during each step of the Section 106 review process.

# THE SECTION 106 PROCESS





DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

FILE 37-01-02  
INIT FWH

SEP 30 2005

Janet L. Wade  
Chief, Environmental Flight  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado History Museum  
1300 Broadway  
Denver CO 80203-2137

Dear Ms. Contiguglia

RE: Your letters dated January 29, 2004 and September 13, 2005

The Air Force is preparing an Environmental Assessment for the construction and operation of a Consolidated Fuels area east of the existing Civil Engineering Complex. The existing structures, which are inadequate and located in an incompatible land use area, would be demolished. The proposed action is required to meet fuel storage and distribution requirements. The No Action Alternative is to continue using the existing fuels facilities. A figure that shows the existing facilities and the proposed action location is attached.

In compliance with Section 106 of the National Historic Preservation Act, Buckley Air Force Base has determined that the proposed action, and alternatives, would not have an adverse affect on historic properties. Cultural resources on Buckley AFB have been inventoried and analyzed for historic significance (Historic Building Inventory and Evaluation dated June 2004). There are no known archaeological or historic structure resources in, or near, the proposed sites. Building information, with the dates of construction in parenthesis, is outlined below.

Proposed Action Site:

- Building 1011 (5AH1528): Was determined to be ineligible for inclusion on the National Register of Historic Places per formal consultation with your office and has been demolished.
- Building 1012 (5AH2317)(1967): Sanitary Latrine, was determined to be ineligible for listing on the National Register of Historic Places and has been demolished.
- Buildings 806 (1996), 1000 (1990), 1001 (1998), 1002 (2000), 1003 (1999), 1004 (1990), 1005 (1994), 1006 (1994), 1007 (1994), 1008 (1996), 1009 (1996), and 1014 (2002 - originally

planned as an addition to building 1007), Mod 5 (2002 – this is a temporary building), 1504 (1994) were constructed or in place after 1990. Therefore, they are not eligible for inclusion on the National Register of Historic Places.

- Buildings 1500, 1501, 1502, and 1503 were constructed in 1977. Therefore, they are not eligible for inclusion on the National Register of Historic Places.

No Action Alternative Site, or the existing structures:


- Buildings 200 (5AH2284)(1978), 202 (1995), 210 (2000), 300 (5AH2285)(1978), 302 (5AH2286) (1989), and 340 (1994) were constructed after 1970. Therefore, they are not eligible for inclusion on the National Register of Historic Places.

Please provide written comments and/or concurrence to:

Floyd W. Hatch  
460 CES/CEVP  
660 S. Aspen Street, Mail Stop 86  
Buckley AFB CO 80011-9551

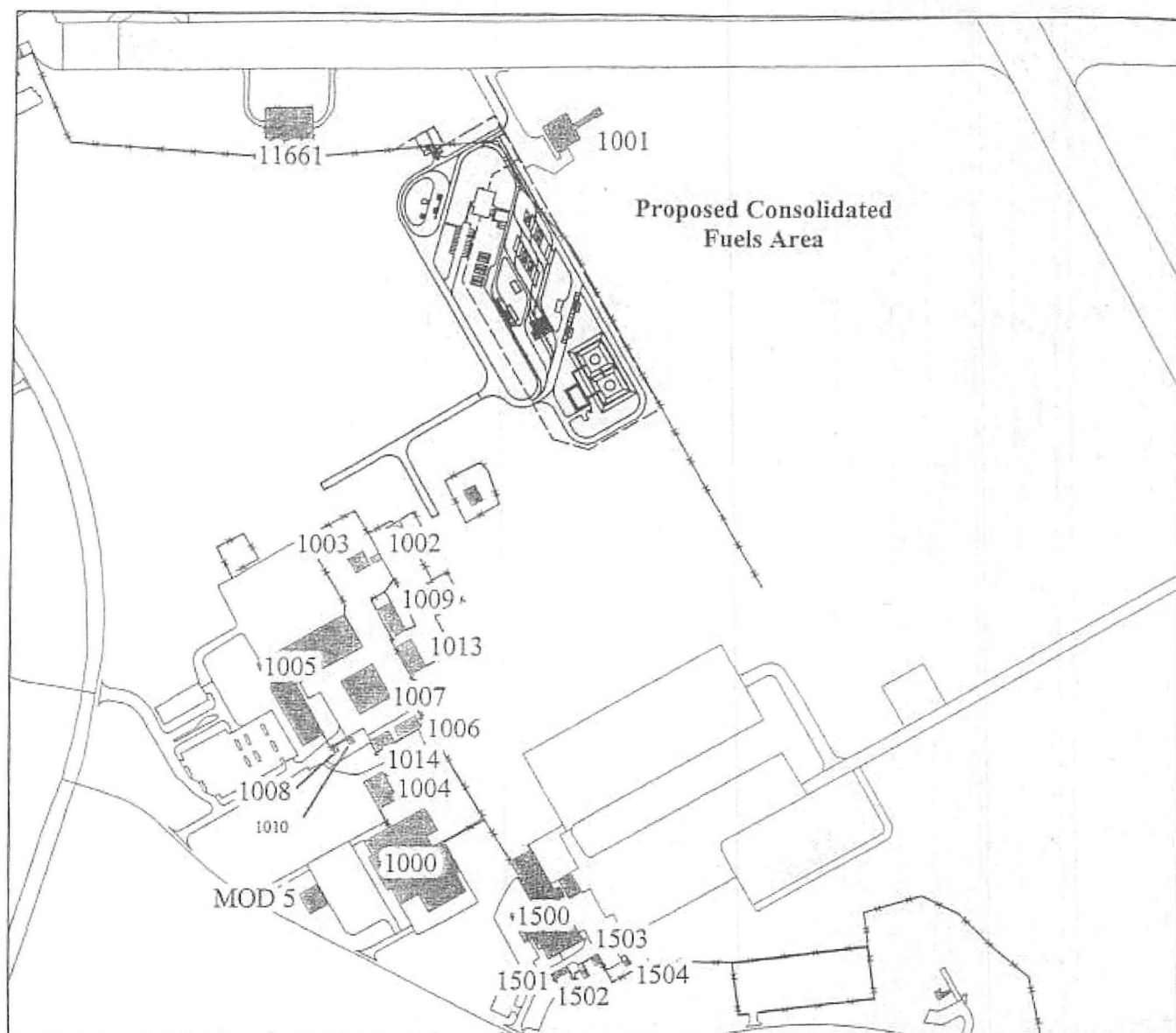
If you have any questions please feel free to contact Mr. Floyd Hatch, Cultural Resources Manager 720-847-6937, email [floyd.hatch@buckley.af.mil](mailto:floyd.hatch@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief at 720-847-9977, email [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
JANET L. WADE,  
Chief, Environmental Flight

Attachment  
Location figures



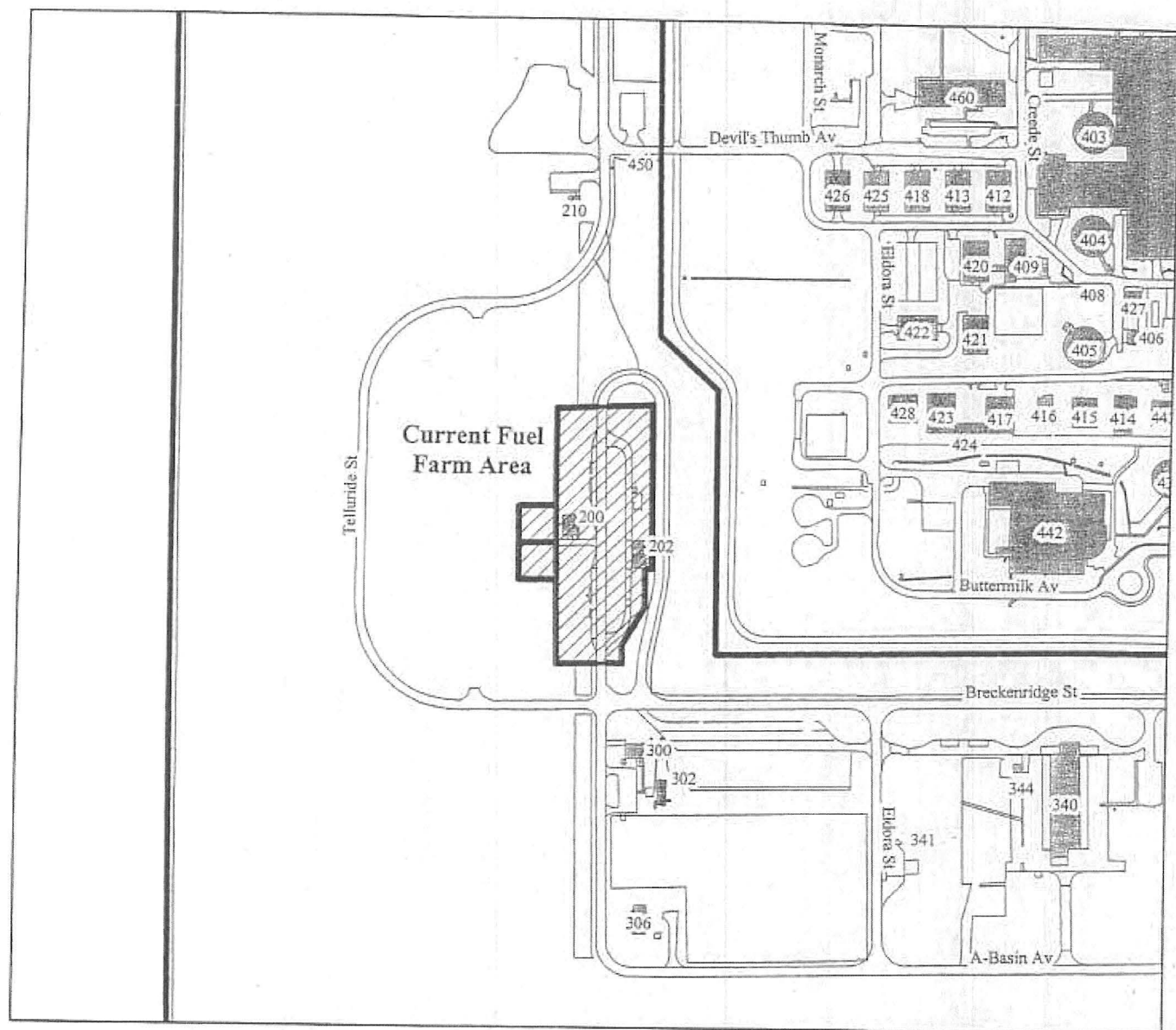






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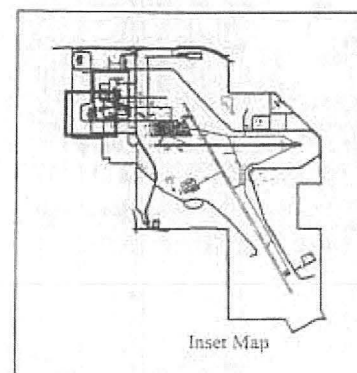
- Proposed Consolidated Fuels Area
- Transportation Network
- Fence Line
- Existing Structures
- Runway



## Proposed Consolidated Fuels Buckley AFB, CO



-  Current Fuel Farm Area
-  Transportation Network
-  Fence Line
-  Existing Structures



## Current Fuel Farm Buckley AFB, CO



COLORADO  
HISTORICAL  
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

September 13, 2005

Lt Col James P. Page  
460<sup>th</sup> Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB, CO. 80011-9551

Re: Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base. (CHS #46284)

Dear Lt Col James Page:

Thank you for your correspondence (not dated) and received by our office on September 8, 2005 regarding the above-mentioned project.

After review of the submitted information, we are unable to complete our review of the Draft EA and FONSI. According to our files, we have not received the Section 106 of the National Historic Preservation Act studies for this project. Once we receive and review the Section 106 studies, we will then be able to review and comment on the Draft EA and FONSI.

We recommend that you coordinate your National Environmental Policy Act (NEPA) studies with the studies required under Section 106 of the National Historic Preservation Act. According to 36 CFR 800.8 of Section 106, "Federal agencies are encouraged to coordinate compliance with Section 106 and the procedures in this part with any steps taken to meet the requirements of the National Environmental Policy Act." The findings from the Section 106 studies can inform the NEPA studies, such as including mitigation measures identified under Section 106 into the NEPA decision document.

We have enclosed a flow chart that explains the coordination between Section 106 and NEPA. If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

Sincerely,

*Mark Wolfe*  
For Georgianna Contiguglia  
State Historic Preservation Officer

cc: Floyd Hatch/Buckley AFB



**COLORADO  
HISTORICAL  
SOCIETY**

**The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137**

January 29, 2004

Lt. Col. Christopher C. McLane  
460<sup>th</sup> Civil Engineer Squadron  
18401 East A-Basin Avenue (Stop 86)  
Buckley AFB, CO 80011-9524

Re: Environmental Assessment for the construction of a Consolidated Fuels area of the existing Civil Engineering Complex. (CHS #42438)

Dear Lt. Col. McLane,

Thank you for your correspondence received by our office on January 21, 2004 regarding the above-mentioned project.

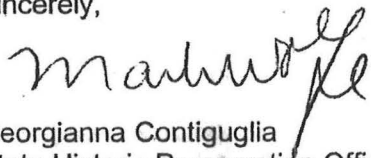
After reviewing the submitted information, staff was unable to complete the Section 106 review process. Staff reviewed the Buckley AFB Draft Historic Building Inventory Report and did not locate an inventory form for Building 1012. Please complete an inventory form for Building 1012 so that the staff may be able to evaluate the building for National Register eligibility.

Our office concurs with your finding of not eligible for the remaining buildings listed in the project letter.

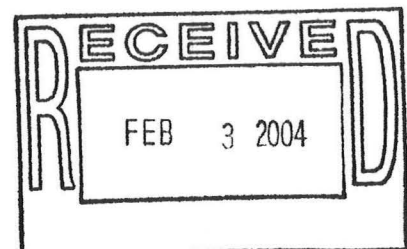
Once the additional information has been received, staff will be able to complete the effects assessments of the project under Section 106.

If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

Sincerely,

*for*   
Georgianna Contiguglia  
State Historic Preservation Officer

cc: Elise Sherva, Buckley AFB





COLORADO  
HISTORICAL  
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

October 6, 2005

Janet Wade  
Chief, Environmental Flight  
460<sup>th</sup> Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB, CO. 80011-9551

Re: Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) to construct a new consolidated fuels facility at Buckley Air Force Base. (CHS #46284)

Dear Janet Wade:

Thank you for your additional information correspondence dated September 30, 2005 and received by our office on October 4, 2005 regarding the above-mentioned project.

After review of your submitted information, we concur with your finding that there are no properties eligible for listing in the National Register of Historic Places within the Area of Potential Effect for the proposed project. Therefore, the proposed project will result in a finding of no historic properties affected under Section 106 of the National Historic Preservation Act (36 CFR 800.4(d)(1)) for the above-mentioned undertaking.

If unidentified archaeological resources are discovered during construction, work must be interrupted until the resources have been evaluated in terms of the National Register criteria, 36 CRF 60.4, in consultation with this office.

We request being involved in the consultation process with the local government, which as stipulated in 36 CFR 800.3 is required to be notified of the undertaking, and with other consulting parties. Additional information provided by the local government or consulting parties might cause our office to re-evaluate our eligibility and potential effect findings.

Please note that our compliance letter does not end the 30-day review period provided to other consulting parties.

If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Coordinator, at (303) 866-4678.

Sincerely,

for Georgianna Contiguglia  
State Historic Preservation Officer

cc: Floyd Hatch/Buckley AFB



# STATE OF COLORADO

Bill Owens, Governor  
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.  
Denver, Colorado 80246-1530  
Phone (303) 692-2000  
TDD Line (303) 691-7700  
Located in Glendale, Colorado

Laboratory Services Division  
8100 Lowry Blvd.  
Denver, Colorado 80230-6928  
(303) 692-3090

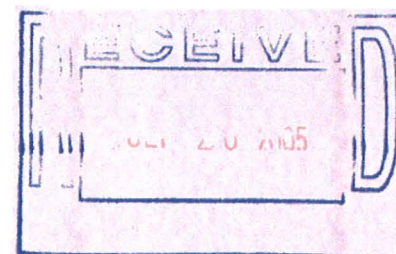
<http://www.cdph.state.co.us>



Colorado Department  
of Public Health  
and Environment

September 15, 2005

Ms. Janet Wade  
460 CES/CEVP  
660 South Aspen Street, Stop 86  
Buckley AFB, CO 80011-9551

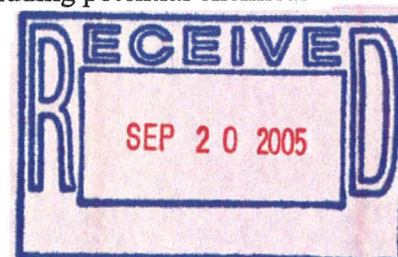


Dear Ms. Wade:

RE: Draft Environmental Assessment (EA) for the Proposed Construction and Operation of a Consolidated Fuels Facility and the Demolition of the Existing Fuel Farm at Buckley Air Force Base, Colorado dated September 2005

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division (the Division) has reviewed the above referenced document received September 8, 2005. The Division appreciates the inclusion of potential asbestos issues and relevant ERP information in this Draft EA. A few comments follow to help finalize the EA:

- 1) Figure 2-1 indicates an access road from Aspen Avenue to the proposed action (new Fuels Facility). This is potentially in the downrange footprint of the former skeet range and this EA should discuss this.
- 2) Section 2.2.2 and 2.2.3 – Coordination with the Colorado Division of Oil and Public Safety is appropriate for demolition and closure of existing fuel facilities. However, hazardous materials such as, but not limited to, fuel additives, solvents, etc. may have been associated with these facilities. Adequate environmental assessment during closure should be conducted to determine the presence or absence of release of hazardous materials into the environment. If discovered, this must be reported to the Division.
- 3) Section 2.4.6 – While the proposed action is not near any existing ERP site, the EA should note that an expanded Preliminary Assessment is being conducted by the base to address the concern of unknown contaminated sites including potential chemical warfare ranges.

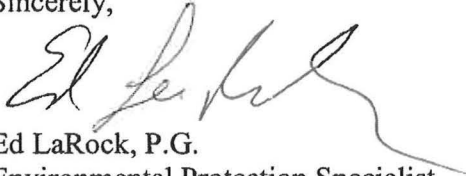




Ms. Janet Wade  
September 15, 2005  
Page 2

Thanks for the opportunity to comment on this EA. Please provide the Division a copy of the final EA. Contact me at 303-692-3324 or [ed.larock@state.co.us](mailto:ed.larock@state.co.us) if there are any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Ed LaRock', with a long, sweeping horizontal line extending to the right.

Ed LaRock, P.G.  
Environmental Protection Specialist  
Hazardous Materials and Waste  
Management Division

cc: Jeff Edson, CDPHE HMWMD  
Dan Miller, AGO  
David Rathke, EPA Region 8  
Mark Spangler, 660 South Aspen Street (Stop 86), Buckley AFB, CO 80011-9551  
File RD003-1.1



NOV 15 2005

DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

Ms. Janet L. Wade  
460th Civil Engineer Squadron  
Environmental Flight  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Mr. Ed LaRock, P.G.  
Hazardous Materials and Waste Management Division  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive, South  
Denver, CO 80246-1530

Dear Mr. LaRock

Thank you for your letter, dated 15 Sep 05, on the Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Consolidated Fuels Facility and the Demolition of the Existing Fuel Farm at Buckley Air Force Base (AFB). Response to your comments follow.

Reconsideration of ERP and MRP sections based on these comments led to revision and update of Section 2.4.6, page 2-10 as follows:

Installation Restoration Program

The IRP is a program category under the Air Force Environmental Restoration Program (ERP). The scope of the IRP is investigation and cleanup of Air Force sites whose past activities created contamination primarily from hazardous substances, hazardous wastes, low level radioactive materials or wastes, or petroleum, oils and lubricants. The Buckley IRP currently consists of ten sites, two of which have been closed, and one Area of Concern at the Buckley Annex. Also ongoing is an expansion of the Preliminary Assessment and Site Inspection conducted by the Colorado Air National Guard in the 1980s. This nationwide search for historical Army, Navy, and National Guard records is designed to determine whether there are contaminated sites not previously discovered at Buckley AFB

Military Munitions Response Program

The MMRP is another program category under the Air Force ERP. The scope of the MMRP is investigation and cleanup of other-than operational ranges

contaminated with military munitions, e.g., unexploded ordnance, or chemical residues of munitions. Buckley currently has two MMRP sites, an abandoned outdoor range and a former skeet range, illustrated in Figure 2-1. Note that the former skeet range is in the downrange footprint to several alternative actions. The Air Force MMRP is centrally managed by Air Staff, which recently initiated a Comprehensive Site Evaluation, Phase I, at each base to identify additional MMRP sites that may require responses to protect human health and the environment.

Please be assured that the Air Force is covering all potential environmental issues in the expanded PA/SI (IRP) and the CSE (MMRP). One such issue, the potential for chemical warfare ranges, has been a key research area for our PA contractor. Therefore, we do not believe it necessary (or appropriate) to single out potential chemical warfare ranges in this Environmental Assessment.

If you have any further questions, please contact Ms. Janet Wade, Environmental Flight Chief at 720-847-9977, email [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely,

  
JANET L. WADE, GS-13  
Chief, Environmental Flight

*FOR*

# STATE OF COLORADO

Bill Owens, Governor  
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

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<http://www.cdphe.state.co.us>



Colorado Department  
of Public Health  
and Environment



September 16, 2005

Ms. Janet Wade  
Dept. of the Air Force  
460 CES/CEVP  
660 S. Aspen St., Stop 86  
Buckley AFB, CO 80011-9551

Re: Fuels Facility Construction

Dear Ms. Janet Wade,

On August 30, 2005 the Colorado Air Pollution Control Division received a request for an air quality determination concerning Fuels Facility Construction. Thank you for taking the time to inquire about air quality requirements in this area. The following information pertains to air quality issues only.

All sources of air emissions in Colorado are required to obtain a construction permit unless they are specifically exempted by the provisions of Regulation No. 3. The first phase of air permitting involves submission of an Application for Construction Permit for each facility and one Air Pollutant Emission Notices (APEN) for each emission source. For purposes of Air Pollutant Emission Notice reporting, a source can be an individual emission point or group of similar emission points (Ref: Regulation No. 3, Part A). Both APEN reporting and permit requirements are triggered by uncontrolled actual emission rates. Uncontrolled actual emissions are calculated based on the requested production/operating rate assuming no control equipment is used. In general, an APEN is required for an emission point with uncontrolled actual emissions of any criteria pollutant equal to or greater than the quantity listed in the table below:

Area	Uncontrolled Actual Emissions
Attainment Areas	2 Tons Per Year
Non-attainment Areas	1 Ton Per Year
All Areas	Lead Emissions: 100 pounds per year



Please consult <http://www.cdphe.state.co.us/ap/attainmaintain.asp> to determine if your project will be located within an attainment or non-attainment area. Other exemptions may be found in Regulation No. 3, Part A, Section II.D.1, however a source may not be exempted if the source would otherwise be subject to any specific federally applicable requirement.

Sources of non-criteria reportable air pollutants have different reporting levels depending on the pollutant, release point height, and distance to property line. Please see Appendix A and Appendix C of Regulation No. 3 for determining the appropriate reporting level for each pollutant and for the list of non-criteria reportable air pollutants. However, none of the exemptions from Air Pollutant Emission Notice filing requirements described above shall apply if a source would otherwise be subject to any specific federal or state applicable requirement. Information concerning submittal of revised Air Pollutant Emission Notices is also given in Regulation No. 3, Part A. An Air Pollutant Emission Notice is valid for a period of five years. The five-year period recommences when a revised Air Pollutant Emission Notice is received by the Division

If you have any questions regarding your reporting and permitting obligations please call the Small Business Assistance Program at (303) 692-3148 or (303) 692-3175.

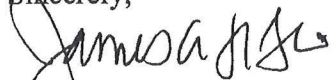
Land development (earth moving) activities that are greater than 25 acres or more than 6 months in duration will most likely be required to submit an APEN to the Division and may be required to obtain an air permit. In addition a startup notice must be submitted 30 days prior to commencement of the land development project. Please refer to the following link for additional information:  
<http://www.cdphe.state.co.us/ap/down/landdevelop.pdf>.

Other requirements regarding the disturbance of lead-based paint or asbestos containing materials during demolition and renovation/remodeling activities are set forth in Colorado Regulations No. 8 (Asbestos) and/or 19 (Lead-based Paint). Should you have any questions regarding these particular regulations, or need the names of qualified inspectors, please call our asbestos and lead-based paint staff at 303-692-3150. In addition, improvements made at the Buckley Air Force Base are subject to a "General Conformity Analysis" as required by the Environment Protection Agency. Please refer to the website [www.epa.gov/airprogram/oar/genconform/documents/58FR63214.pdf](http://www.epa.gov/airprogram/oar/genconform/documents/58FR63214.pdf). You may also wish to contact Mr. Aaron Frame at DIA at 303-342-2633.

If you have any questions or feel as though you need more information on possible air pollution permits or notice requirements, please contact me directly at (303) 692-3127 or the Colorado Air Pollution Control Division's Stationary Source Program at (303) 692-3150. I can also be reached via email at [jim.dileo@state.co.us](mailto:jim.dileo@state.co.us).

Again, thank you for taking the time to contact the Division about this upcoming project.

Sincerely,



James A DiLeo  
Air Quality Planner  
Colorado Air Pollution Control Division



DEPARTMENT OF THE AIR FORCE  
460TH SPACE WING (AFSPC)

FILE 38-03-01  
INIT FWH

Janet L. Wade  
Chief, Environmental Flight  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

SEP 30 2005

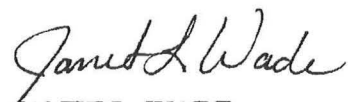
Bruce Rosenlund  
U.S. Fish and Wildlife Service  
755 Parfet Street, Suite 496  
Lakewood CO 80215

Dear Mr. Rosenlund

The Air Force has prepared a Draft Environmental Assessment (EA) for the Consolidated Fuels Facility located at Buckley Air Force Base (AFB), Colorado. The purpose of the project is to demolish the existing deteriorating fuels farm and build a new facility. The new consolidated fuels facility will meet fuel storage and distribution needs on base in a safer location than the existing facilities. The new facility will include alternative fuels for use at Buckley AFB. A copy of the Finding of No Significant Impact (FONSI) and the Draft EA dated Sep 05 were sent to you on 07 Sep 05. We have assessed the potential environmental effects of the Consolidated Fuels project and determined that the proposed actions are not likely to adversely affect federally listed and candidate species. We are requesting initiation of Section 7 consultation per the Endangered Species Act.

Please feel free to contact Mr. Floyd Hatch, Natural and Cultural Resources Manager, at 720-847-6937, email [floyd.hatch@buckley.af.mil](mailto:floyd.hatch@buckley.af.mil) with any questions.

Sincerely

  
JANET L. WADE,  
Chief, Environmental Flight



# PRAIRIE PRESERVATION *Alliance*

October 6, 2005

Ms Janet Wade  
460 CES/CEVP  
660 S. Aspen Street (Stop 86)  
Bldg. 1005  
Room 254  
Buckley AFB  
Colorado 80011-9551  
Telephone 720.847.9977

**Re: Draft Environmental Assessment for the Proposed Construction and Operation of a Consolidated Fuels Facility and the Demolition of the Existing Fuel Farm at Buckley Air Force Base, Colorado**

Dear Ms Wade:

Thank you for accepting these scoping comments on behalf of the members and constituents of Prairie Preservation Alliance, the Wild Utah Project, and Prairie Ecosystems. (Ms Martin asked that Buckley be reminded that she was their primary consultant on the Environmental Assessment [EA] and Prairie Dog Plan along with Ogden Environmental late in the 1990s. She wishes to take this opportunity to express her disappointment with the way prairie dog management has been handled at Buckley since that time.) We sincerely appreciate the opportunity to provide Buckley Air Force Base (AFB) with our concerns during this public process. We feel that the scope of the Environmental Assessment should be broadened to include concerns that were not addressed in the assessment and provide you with the following ideas and input.

## **Purpose and Need**

In this EA, Buckley states its purpose is "to meet the fuel storage and distribution requirements at Buckley Air Force Base (AFB) and to reduce air pollution from the existing facilities while adding the equipment necessary for using alternative fuels at Buckley AFB" (p.1-3). The need is identified as arising "because the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. ... Additionally, fuel trucks for aircraft operations must travel across the base from the aircraft apron and back ... which creates safety concerns associated with the transportation of highly flammable materials on a regular basis through the base transportation network" (p. 1-3). The purpose and need sections do not address the issue of potential environmental impacts that may result from constructing a fuels facility.

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[www.prairiepreservationalliance.org](http://www.prairiepreservationalliance.org)

While safety concerns regarding the current method of transporting fuels across the base are referenced multiple times—and represent matters of importance—the potential safety hazard that arises by locating a fuel storage system near the runways of incoming and outgoing aircraft is not introduced or examined.

As written, the EA presents evidence of native prairie species—species of special concern to State and Federal agencies—in the path of construction, but contends that their removal is of minor consequence.

### Scope

The scope of the EA is “to consider environmental consequences as part of the planning and decision-making process. While the EA provides information with which to make better decisions about proposed actions, it does not impart project approval or authorization which is obtained through the 460th Facilities Board” (p.1-7). The analyses of solutions fail to adequately weigh multiple possibilities and alternatives in a manner that comprehensively examines and presents solutions to measures that adversely impact environmental concerns.

Both the National Environmental Policy Act (NEPA) and the Administrative Procedures Act (APA) require that an agency's determinations be supported by factual information. A federal court has found that “the agency must explicate fully its course of inquiry, its analysis and its reasoning” (Dubois v. U.S. Department of Agriculture, 102 F.3d 1273, 1287 (1st Cir. 1996)). An agency decision must always have a rational basis that is both stated in the written decision and demonstrated in the administrative record accompanying the decision (Kanawha v. Hocking Coal & Coke Co., 112 IBLA 365, 368 (1990)). In Davis v. Mineta, 2002 WL 1401690 (10th Cir. 2002), the court found that the government too narrowly defined the purpose and need statement.

Thus, based on these decisions by federal courts, we strongly suggest that Buckley AFB revisit its purpose and need statement. We provide the following criteria to assist in that regard:

- ❖ Buckley must demonstrate a valid need for changing the location of the current fuel tank farm. It states “the existing fuel tank farm is deteriorating and in need of on-going repairs and the current tank farm is located in an incompatible land use area. *Planned* (emphasis mine) land uses in the immediate area of the tank farm include the development of military family housing and community services” (p. 1-3). A deteriorating tank farm must be addressed to insure the cessation of environmental impacts. Acknowledging the condition is the first step. Remedying it must be the immediate next step. The land use area is incompatible with a tank farm only because of recent plans to construct housing.

- ❖ Buckley must reevaluate its decision to eliminate Alternative 4—Updating the Current Facility. Reasons include:

Aircraft refueling efficiency would not be increased;  
Risks of transporting fuels throughout the AFB would not be reduced; and  
Current tank farm would not provide a central location.

With an entire footprint of 3,283 acres, the distance traveled from one place to another within the area is relatively short. Increased efficiency must be calculated and demonstrated to be a valid reason for impacting resources in this manner. Similarly the comparison of risks between transporting fuels and a central location near incoming and outgoing aircraft must confirm the assertion that the risk of transporting fuels is larger than the potential danger to aircraft and aircraft personnel. In the past, wildlife near runway areas was exterminated because of the potential of interfering with aircraft activities. If a prairie dog or a coyote is perceived to be a threat to aircraft safety, nearby fuel storage must be classified as a potential threat as well.

- ❖ Buckley must increase the scope of the EA by including an examination of the potential hazards associated with locating a fuels farm in the vicinity of the aircraft apron.
- ❖ Buckley must further analyze the environmental costs associated with the demolition of the existing fuel tank farm (including four buildings, "all associated equipment and piping" [p.2-1], and all above-ground storage tanks). Costs must include impacts to the public regarding the disposal of demolition debris at "an approved off-base landfill" (p.2-4).
- ❖ Buckley must analyze more fully the potential hazards of transporting fuels around the base. To say that the preferred alternative provides less risk to the public must be quantified. An accident involving volatile fuels may have such far-reaching ramifications that any location on base could be deemed equally dangerous. Analysis must include the possibility that transportation from the current tank farm, involving less travel on main roadways, may therefore decrease the risk of accidents.
- ❖ Buckley must obtain base-wide jurisdictional determination of wetlands by the Army Corps of Engineers prior to eliminating it from detailed analysis.
- ❖ Buckley lists "2 state species or habitats of concern" (Table 2-2, p. 2-12), but dismisses them as "no significant impacts to the environment" (p. 2-11). A more thorough analysis of the species and habitat must be conducted before eliminating them as unimportance to the ecosystem.
- ❖ Buckley quantifies the amount of hazardous air pollutants caused by the fuel storage and transfer operations on base. This is an admirable undertaking. The quantification must be used as a baseline. Future plans and analysis—prior to construction—must evaluate and offer alternatives for significant reductions in emissions. The safest solutions must be incorporated and implemented in the new fuels farm.
- ❖ Buckley must demonstrate a more comprehensive understanding of wildlife species that occupy the location on a temporary or permanent basis. To say "[w]ildlife species are often migratory or transient and occupy varying locations throughout the year" (p.3-6) is incomplete and indicates a lack of understanding of the habits and migratory patterns of wildlife species. Bald eagles use prairie dog colonies to sustain them during their migrations twice annually. To remove their food source will force their future decline. For more than two million years, prairie dogs have helped

create and maintain balanced grassland ecosystems. When areas become "overgrazed by prairie dogs" (p.3-6), it is generally the resulting pressure from habitat loss that forces wildlife species to inhabit increasingly smaller areas. To ignore this fact, or to place blame on the prairie dog, indicates a further lack of understanding.

- ❖ Buckley must update its survey for on-base populations of prairie dogs and burrowing owls. In Section 3.3.2 Wildlife, Buckley admits, "the site consists of typical prairie dog habitat and a burrowing owl nest was observed adjacent to this site" (p. 3-7). An updated survey will provide information regarding the current status of the site. With this information comes the responsibility for providing protection for species in decline—whether they are state species of concern, listed as threatened by CDOW, or protected under the MBTA. Simply because the species is not designated as federally listed does not dispense with Buckley's responsibility for being a good steward. As important, with the continued loss of habitat, it is in the interest of the citizens of Colorado, who "own" the wildlife in the State, to provide habitat wherever possible for the continuance of the species.
- ❖ Buckley must revise its declaration in Section 4 Environmental Consequences, "Implementing the proposed action or the alternatives considered in this EA *could potentially* (emphasis mine) result in cumulative impacts" (p. 4-1). Continued reduction in habitat most certainly results in cumulative impacts. Reducing habitat by 35.7 percent over a period of three years is the subject of an additional EA that Buckley is undertaking. To dismiss the impacts of this future EA because it is not currently available is equivalent to declaring it negligible.
- ❖ Buckley must provide stronger reasoning for abandoning its current fuel farm than convenience. References to homeland security must be a factor in determining the location of a new fuel farm. The use of secondary and tertiary roadways, rather than main thoroughfares, decreases the potential for involving additional personnel in risk situations and must be a factor as well.

#### Thoughtfully Analyzed Alternatives

Buckley must develop and provide to the public discrete and thoughtfully analyzed alternatives and present them in an EA. To do less is a violation of NEPA. The Code of Federal Regulations provide:

[The alternatives] section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (§1502.15) and the Environmental Consequences (§1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, *thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.* (Emphasis mine). [40 C.F.R. §1502.14]

We are concerned that the alternatives found in the EA are too narrowly constructed. Yet, under NEPA, all of these alternatives must weigh competing interests of the public, balance the potential harms of the agency's actions, and consider a whole realm of economic, social, and environmental knowledge. Of particular note, the

"only nonlethal methods" section excludes a whole sphere of imaginative, non-lethal controls. Again, the federal courts have weighed in on this issue.

In Muckleshoot Indian Tribe v. U. S. Forest Service, 177 F.3d 800 (9th Cir. 1999), the court upheld the purpose and need statement but found that the U.S. Forest Service did not consider a reasonable range of alternatives, including considering public interest alternatives. The court wrote that the public's interests and rights must be retained. In City of Carmel-by-the Sea v. U.S. Dept. of Transportation, 123 F.3d 1142 (9th Cir. 1997), the court wrote, "the stated goal of a project necessarily dictates the range of reasonable alternatives and an agency cannot define its objectives in unreasonably narrow terms." (Id. at 1155.) In yet another case, Simmons v. U.S. Army Corps of Engineers, 120 F.3d 664, 669 (7th Cir. 1997), the court found that "the 'purpose' of a project is a slippery concept, susceptible of no hard-and-fast definitions. One obvious way for an agency to slip past the structures of NEPA is to contrive a purpose too slender as to define competing 'reasonable alternatives' out of consideration (and even out of existence). The federal courts cannot condone an agency's frustration of Congressional will."

#### Economics and Society

Buckley needs to provide the public with a cost-benefit analysis of its proposed action. Although the CEQ regulations in 40 CFR §1502.23 do not require an agency to develop a *cost-benefit analysis*, per se, NEPA provides that "effects" are both direct and indirect. The criteria for establishing a cost-benefit analysis includes:

Ecological . . . aesthetic, historic, cultural, *economic*, *social*, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.  
[40 C.F.R. §1508.8].

The criteria we feel are important for developing a cost-benefit analysis are:

- ❖ Analysis of economic sectors showing the relative importance of prairie dogs in eastern Colorado in relation to the associated wildlife the public engages in viewing (See U.S. Fish and Wildlife Service 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation: \$38.4 billion in expenditures in viewing wildlife in the U.S.) compared with all other economic activities in this region.
- ❖ Analysis of the opportunity costs that include impacts to ecosystems by elimination of prey species, including disruption of the predator/prey balance, and changes in floral communities if large numbers of prairie dogs are removed.
- ❖ Analysis of the cumulative economic impacts to society from the continuation of this program.
- ❖ Cost-benefit analysis for wildlife damage management in terms of society's willingness to pay for such control. What do public surveys tell us with regards to the value of wildlife to society? Several studies and surveys have been conducted concerning the value of animals to people and the value of predator controls.



### **Environmental and Issues Concerning the Health and Well Being of People, Animals, and Nature**

As you are well aware, the 1931 Animal Damage Control Act continually bumps up against other federal and state laws. The Act presumes that agricultural concerns trump all others. Fortunately, NEPA, the Endangered Species Act, and a whole host of other environmental laws which were passed by Congress in the 1970s require that Environmental Assessment analyses be based on a whole range of values held by the public and carefully conduct its projects with environmental integrity. As such, Buckley must balance humans' rights and interests with nonhuman and environmental well-being and health. We provide some examples for the environmental analyses as follows:

- ❖ The agencies must provide data to the public that enumerates how many animals will be affected by the proposed action and how individual prairie dogs and the population as a whole will be influenced. Buckley and the State of Colorado in this effort must determine how many prairie dogs and non-target species will be harmed or killed and provide the public with its rationale. To emphasize, the agencies must show that they have reliable baseline data concerning prairie dog populations, recruitment levels into the population, etc., *before* they take any actions them. The analysis must consider all cumulative impacts to the prairie dog population, including affects from shooting, poisoning, road kill, "non-lethal" controls such as donating individuals to black-footed ferret reintroduction programs and raptor foundation, etc. The public must be given information about whether the agencies' actions will target certain members of the prairie dog population—particularly if females and pups are targeted.
- ❖ Non-lethal methods. What is the true range of possibilities? Have the latest advances in barrier systems used in combination with vegetative barriers been researched? Have the uses of the terms removed relocated been polluted by recommending the use of the vacuum extraction method followed by donation to ferret and raptor programs? The discussion of relocation needs to be vastly improved upon and not easily dismissed as it is in the EA.
- ❖ Buckley must evaluate whether their prairie dog and burrowing owl control efforts (whether lethal or non-lethal) will effect or harm other species, particularly species that are threatened, endangered, or are of special concern to the State of Colorado, the US Fish and Wildlife Service, or to the public.
- ❖ Buckley must evaluate whether their prairie dog and burrowing owl control efforts (whether lethal or non-lethal) will harm the ecosystem, the health of the ecosystem, and biodiversity in any capacity.
- ❖ In this analysis, Buckley must discuss and evaluate the range of human values toward prairie dog and burrowing owl control measures (that will likely include the killing of large prey bases for the benefit of individuals who perceive them as a health or safety risk) before it makes its decision. The groups' actions also must be evaluated for what could happen in the foreseeable future.
- ❖ Buckley must evaluate the range of human values concerned with conservation, the well being, and health of individuals, populations, and the ecosystem.



### **Decision Model Process**

For years prairie dogs have been routinely persecuted, poisoned and shot to free the rural environment of the "destructive rodent pest". The same unwarranted beliefs have transferred to the urban environment where the prairie dog is poisoned and bulldozed daily to make way for development. With no protection from either the state or federal level it is of grave concern that the species will become extinct before protective measures are in place. Species have certainly been lost while waiting to be listed as threatened or endangered and in the same way, prairie dogs can easily be lost to the grassland biome if protection is not afforded them. It will be one more example of violating state and federal laws as well as the public's trust.

### **Mitigation Measures**

NEPA requires that mitigation measures be reviewed in the process—not in some future decision shielded from public scrutiny. "[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the 'action-forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989).

### **The Public Trust Doctrine and the Public's Interest**

The ownership of wildlife under common law is a long established tradition in England and the United States. Wild animals, in the proprietary sense, are owned by no one, not even the state. Clajon Production Corp. v. Petera, 854 F.Supp. 843 (D.WY 1993); U.S. v. Long Cove Seafood, Inc. 582 F.2d 159 (2<sup>nd</sup> Cir. 1978). As such, wildlife is held in trust for the public. "The American common law rule is that the sovereign owns fish and game in trust for its citizens." Mille Lacs Band of Chippewas Indians v. Minnesota, 861 F.Supp. 784 (D.MN, 1994). The U.S. Supreme Court has held that states hold wildlife in trust for its citizens for conservation and protection. Hughes v. Oklahoma, 441 U.S. 322 (1979). For an excellent discussion of the public trust doctrine, please see Susan Morath Horner, "Embryo, Not Fossil: Breathing Life into the Public Trust in Wildlife," *Land and Water Review*, volume 35 (University of Wyoming, College of Law, 2000), p. 23-75.

In addition to the harm to wildlife, we are concerned about the harm to the ecosystem when a keystone species is removed. Such activities can harm the soil, water, and air and thus harm the public's interest.

### **Integrity of Data**

The environmental analyses that Buckley gathers must adequately address all the information available on this issue so that informed decisions can be reached as required by NEPA. We raise this point, because past environmental analyses regarding prairie dogs have not included sound research. The EA itself cites only the science that bolsters its position. The literature on the topic at hand has far more breadth and should not be limited solely to the "hard" sciences, but should also include the vast body of literature that concerns human dimensions. We have included a bibliography at the end to assist your research. (This bibliography is not an exhaustive look at the literature, but is intended as a starting point.)

Again, NEPA requires that agencies "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." 40 C.F.R. §1502.24. Courts have determined "[i]f an alternative mode of EIS evaluation is insufficiently detailed to aid the decision-makers in deciding whether to proceed, or to provide the information the public needs to evaluate the project effectively, then the absence of a numerically expressed cost-benefit analysis may be fatal." Columbia Basin Land Protection Ass'n v. Schlesinger, 643 F.2d 585, 594 (9th Cir. 1981).

#### **Public Lands, Cumulative Impacts, Need for a Single Document**

NEPA requires that federal agencies prepare a detailed environmental impact statement for each proposed action considering "cumulative actions" and "connected actions" together in a single statement rather than subdividing the proposed actions into smaller environmental analyses. 40 C.F.R. § 1508.25(a); see also Save the Yaak v. Block, 840 F.2d 714, 719-21 (9th Cir. 1988).

Without a single comprehensive document, with regards to prairie dog management in Colorado, we are left without sufficient data and so is the agency. Buckley needs sufficient information so that it can make sound decisions. We recommend that Buckley:

1. Revisit the purpose and need statement so that it reflects criteria important to the public's interest;
2. Expand and more clearly analyze a range of alternatives with the public trust doctrine in mind;
3. Provide the public and itself with a cost-benefit analysis of the proposed actions;
4. Analyze issues that concern the health and well being of people, animals, and nature and that this search have integrity;
5. At long last notify the public about its decision model process and whether that process is actually followed; and
6. Expand the scope of this analysis to include all of Colorado so that cumulative impacts can be adequately addressed.

Ms Janet Wade

Comments on Draft Environmental Assessment for the Proposed Construction and Operation of a Consolidated Fuels Facility and the Demolition of the Existing Fuel Farm at Buckley AFB, Colorado

October 6, 2005

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## **Conclusion**

Thank you for providing the public with the opportunity to comment on this EA. It is important that as a matter of practice, the federal sector engages the public early on. We have several concerns, as expressed here. No doubt, these concerns are not comprehensive and so we are hopeful that Buckley will be allowed to continue accepting input from a vast public.

Sincerely,



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### Suggested Bibliography

- Dunlap, Thomas R. Saving America's Wildlife: Ecology and the American Mind, 1850-1990. Princeton University Press, 1988.
- Fox, Michael. Bringing Life to Ethics: Global Bioethics for a Humane Society. Albany: State University Press of New York, 2001.
- Gill, R. Bruce and Michael W. Miller. "Thunder in the Distance: The Emerging Policy Debate Over Wildlife Contraception." In Ed. Terry Kreeger, USDA/APHIS, Contraception in Wildlife Management. Technical Bulletin No. 1853 (1997): 257-267. [This article has a significant amount of information concerning the ban on spring bear hunting, baiting and use of dogs in Colorado.]
- Horner, Susan Morath. "Embryo, Not Fossil: Breathing Life into the Public Trust in Wildlife." *Land and Water Review*, volume 35, University of Wyoming, College of Law, 2000, p. 23-75.
- Kellert, Stephen and Carter Smith. "Human Values Toward Large Mammals." In Stephen Demarais and Paul Krausman, Eds. Ecology and Management of Large Mammals in North America. New Jersey: Prentice Hall, 2000.
- Kimball, BA, GR Johnson, DL Nolte, DL Griffen. "An examination of the genetic control of Douglas-fir vascular tissue phytochemicals: Implications for black bear foraging." *Forest Ecology and Management*, 123 (2-3): 245-251, November, 1999.
- Kimball, BA, EC Turnblom, DL Nolte, DL Griffin, RM Engeman. "Effects of thinning and nitrogen fertilization on sugars and terpenes in douglar-fir vascular tissues: Implications for black bear foraging." *Forest Science*. 44 (4): 599-602, November, 1998.
- Kimball, BA, DL Nolte, DL Griffen, SM Dutton, S Ferguson. "Impacts of live canopy pruning on the chemical constituents of Douglas-fir vascular tissues: Implication for black bear tree selection." *Forest Ecology and Management*. 109 (1-3): 51-56, September, 1998.
- Kimball, BA, DL Nolte, RM Engeman, JJ Johnston, FR Stermitz. "Chemically mediated foraging preference of blac bears (*Ursus americanus*)." *Journal of Mammalogy*. 79 (2): 448-456, May, 1998.
- Kohlmann, SG, RL Green, CE Trainer. "Effects of collection method on sex and age composition of black bear (*Ursus americanus*) harvest in Oregon." *Northwest Science*. 73 (1): 34-38, February, 1999.
- Meadows, Bob. "Executive Summary: Southern Rockies Survey Report." Decision Research, May 2001. < <http://www.rockywolf.org/Pages/Media.html>>. [Survey on attitudes concerning carnivores in AZ, CO, and NM.]

Mighetto, Lisa. Wild Animals and American Environmental Ethics. Tucson: University of Arizona Press, 1991.

Patterson, Michael, Dwight Guynn, and David Guynn, Jr. "Human Dimensions and Conflict Resolution." In Stephen Demarais and Paul Krausman, Eds. Ecology and Management of Large Mammals in North America. New Jersey: Prentice Hall, 2000.

Partridge, ST, DL Nolte, GJ Ziegltrum, CT Robbins. "Impacts of supplemental feeding on the nutritional ecology of black bears." *Journal of Wildlife Management*. 65(2): 191-199, 2001.

Russell, WH, K Carnell, JR McBride. "Black bear (*Ursus Americanus* Pallas) feeding damage across timber harvest edges in northern California coast redwood (*Sequoia sempervirens*) forests, USA." *Natural Areas Journal*, 21 (4): 324-329, October, 2001.

Stewart, WB, GW Witmer, GM Koehler, M Norton. "Incisor analysis to predict the gender of black bears damaging trees." *International Biodeterioration and Biodegradation*. 49 (2-3): 209-212, 2002.

Sullivan, Thomas. "Feeding damage by bears in managed forest of western hemlock-western red cedar in midcoastal British Columbia." *Canadian Journal for Res*. Vol. 23, 1993.

Teel, TL, RS Krannish, RH Schmidt. "Utah stakeholders' attitudes toward selected cougar and black bear management practices." *Wildlife Society Bulletin*. 30 (1): 2-15, Spring, 2002.

Vander Heyden, M, EC Meslow. "Habitat selection by female black bears in the central Cascades of Oregon." *Northwest Science*. 73(4): 283-294, November, 1999.

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Dear Ms. Enderle

Thank you for your letter, dated 06 Oct 05, on the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction of the Consolidated Fuels Facility and the demolition of the existing fuel farm at Buckley Air Force Base (AFB).

Buckley AFB has considered the issues raised in your letter and has considered all competing interests including potential environmental impacts. We have also considered reasonable alternatives to the extent practicable with our mission requirements.

Buckley AFB works with the U.S. Fish and Wildlife Services and the Colorado Division of Wildlife. Both of these agencies review all Buckley AFB EAs. They are also involved in the development of our Integrated Natural Resource Management Plan (INRMP). Buckley AFB is committed to the overall protection of the prairie dogs and associated species and is committed to being good stewards of our natural resources. We are following a previously approved Prairie Dog EA which addresses protecting the burrowing owls. Buckley AFB conducts annual surveys of prairie dogs and owls on the entire base. This year's survey was completed in July 2005. The 2005 survey did not identify prairie dogs or owls at the proposed location.

Buckley AFB mapped habitats on base, including wetlands, in 2001. Since this project will not dredge/fill any of the wetland areas, an official Army Corps survey is not necessary.

We will take any other issues under advisement and thank you for your ideas and input. If you have any further questions, please contact Mr. Bruce James, Environmental Planning Chief at 720-847-7245, email [bruce.james@buckley.af.mil](mailto:bruce.james@buckley.af.mil).

Sincerely

  
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GUARDIANS OF THE HIGH FRONTIER